MEDICAL
TIMES
Journal for the Family Physician

February 1959

Audiology and the Physician

Diet for the Aged



"The prompt and effective clearing of organisms and pyuria that was obtained in this series and in a previous one with Gantrisin ***plus*** *the dramatic relief of bladder and urethral symptoms which can be attributed to the [phenylazo-diamino-pyridine HCl] indicated to us that*

Azo Gantrisin

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*F. K. Garvey and J. M. Lancaster, *North Carolina M. J.*, *18*:78, 1957.



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*Complete information from this survey will be sent on request.

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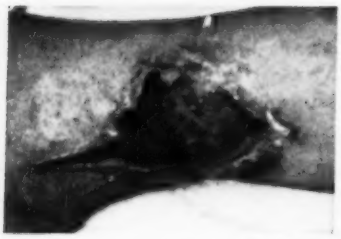
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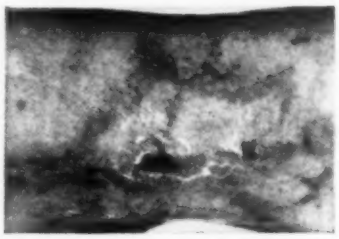
"The criteria of success were not only the clinical course, but also objective symptoms, such as claudication time, healing of extensive gangrenous lesions, and skin temperature."[1]



Ulceration after three months' duration, refractory to other forms of treatment



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REFERENCE: 1. Van Wijk, T.W.: Angiology 4:103, 1953. BIBLIOGRAPHY: 1. Gillhespy, R.O.: Brit. M. J. 2:1543, 1957. 2. Gillhespy, R.O.: Angiology 7:27, 1956. 3. Winsor, T.: Angiology 4:184, 1953. 4. Reeder, J.J.: Geneesk. gids. 31:370, 1953. 5. Kappert, A.: Schweiz. med. Wchnschr. 85:287, 1955.

CONTENTS

Features

139 Audiology and the Physician
John W. Keys, Ph.D.
Rafael Rigual, M.D.

149 Diet for the Aged
Nathaniel G. Berk, M.D.

151 Management of Cerebrovascular Accidents in Elderly Patients
B. Marvin Hand, M.D.

156 Osteoarthritis
Marvin J. Seven, M.D.

160 Anemia in the Elderly Patient
William L. Wilson, M.D.

164 Retroperitoneal Hemorrhage in Non-Penetrating Abdominal Trauma
William H. Kastl, M.D., F.A.C.S.

168 Unsaturated Fatty Acids, Blood Serum Cholesterol and Atherogenesis
A. Schwartzman, M.D.

172 Office Management of Pelvic Inflammatory Disease
John J. Fisher, M.D.

BPA

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Melbourne Brindle's "Winter Night Call" has captured a scene familiar to many physicians in the northern states. The determined subject with the shovel is Dr. John M. Street, who has his general practice in New Milford, Connecticut. A long-standing expert in snow removal, Dr. Street's tip to colleagues: "Don't rush it. Take it slow and easy for your heart's sake." Good Advice? We think so. For more about the same, see page 260a.



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CONTENTS

Continued

Features

177 Atypical Gout and Hyperuricemia
Lester I. Goldsmith, M.D.

182 Psychosomatic Disease—Somatopsychic Disease
Zeb L. Burrell, Jr., M.D.

185 The Physician and Mental Retardation
Raymond W. Vowell
Charles C. Cleland, Ph.D.

188 Genitourinary Bleeding
John F. Lally, M.D.
William A. Reed, M.D.

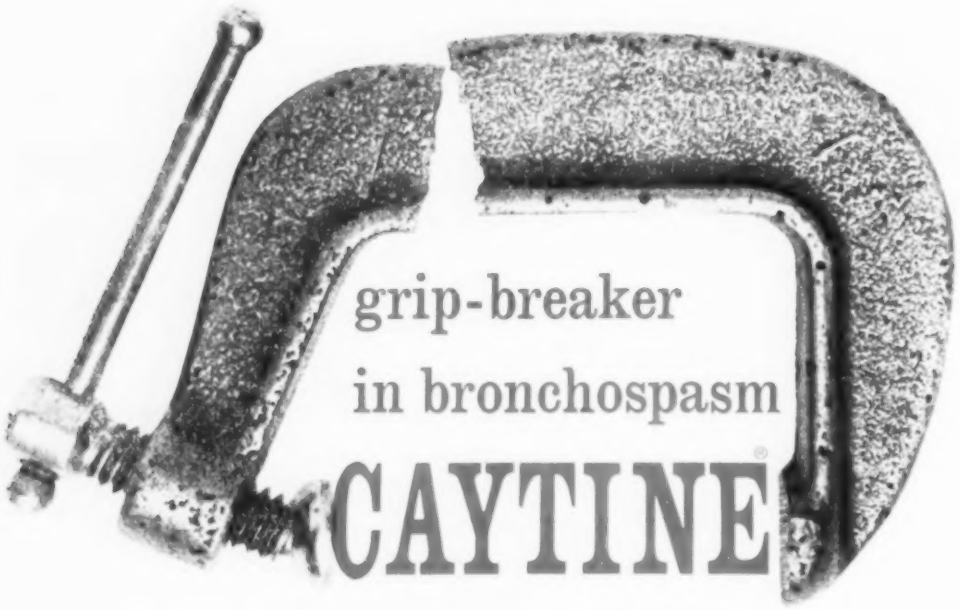
193 Medical Conference on:
Severe Intestinal Bleeding
Hepatic Disease

202 Hypnosis in Medical Practice
Leslie M. LeCron, B.A.

207 Current Drug Therapy in Rheumatoid Arthritis
Mitchel G. Garren, M.D.

216 Sadism, Seduction and Sexual Deviations
Berthold E. Schwarz, M.D.
Bartholomew A. Ruggieri, M.D.

225 Alopecia
Irwin I. Lubowe, M.D., F.A.C.A.



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(1) Leslie, A., and Simmons, D. H.: Am. J. M. Sc. *234*:321, 1957. (2) Settel, E.: Am. Pract. & Digest Treat. *8*:1249, 1957.

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CONTENTS

Continued

Conference	235	Clinico-Pathological Conference Peter Bent Brigham Hospital
Editorial	244	Medicine Under the State
Editor's Excerpts	249	The Long and Short of It
Remember When?	258	Operating Room, Long Island College Hospital, 1893
Office Surgery	260	Varicose Ulcers
Medical Jurisprudence	263	The General Practitioner and the Law George Alexander Friedman, M.D., LL.B., LL.M.
Special	269	The Doctor Makes a Speech Arthur L. Kay
	273	What Kind of Practice? J. H. Means, M.D.
Historical	276	Burroughs and Wellcome: Adventure in Drug Making
Hospital Centers	286	Peter Bent Brigham Hospital

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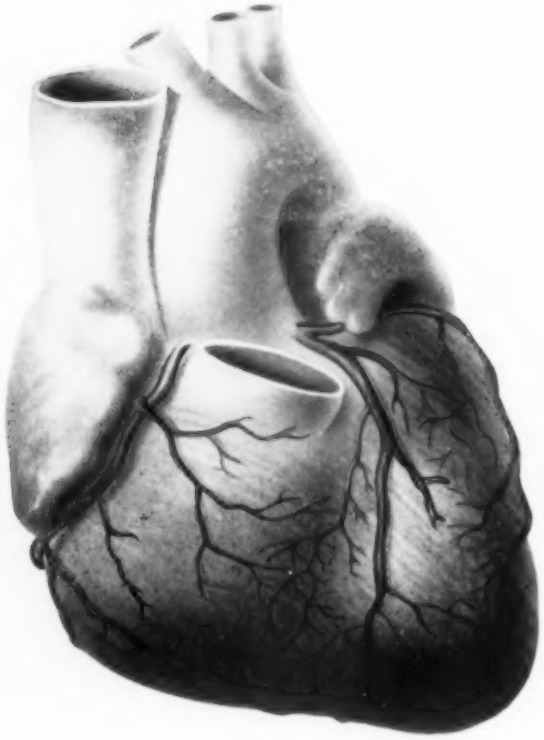
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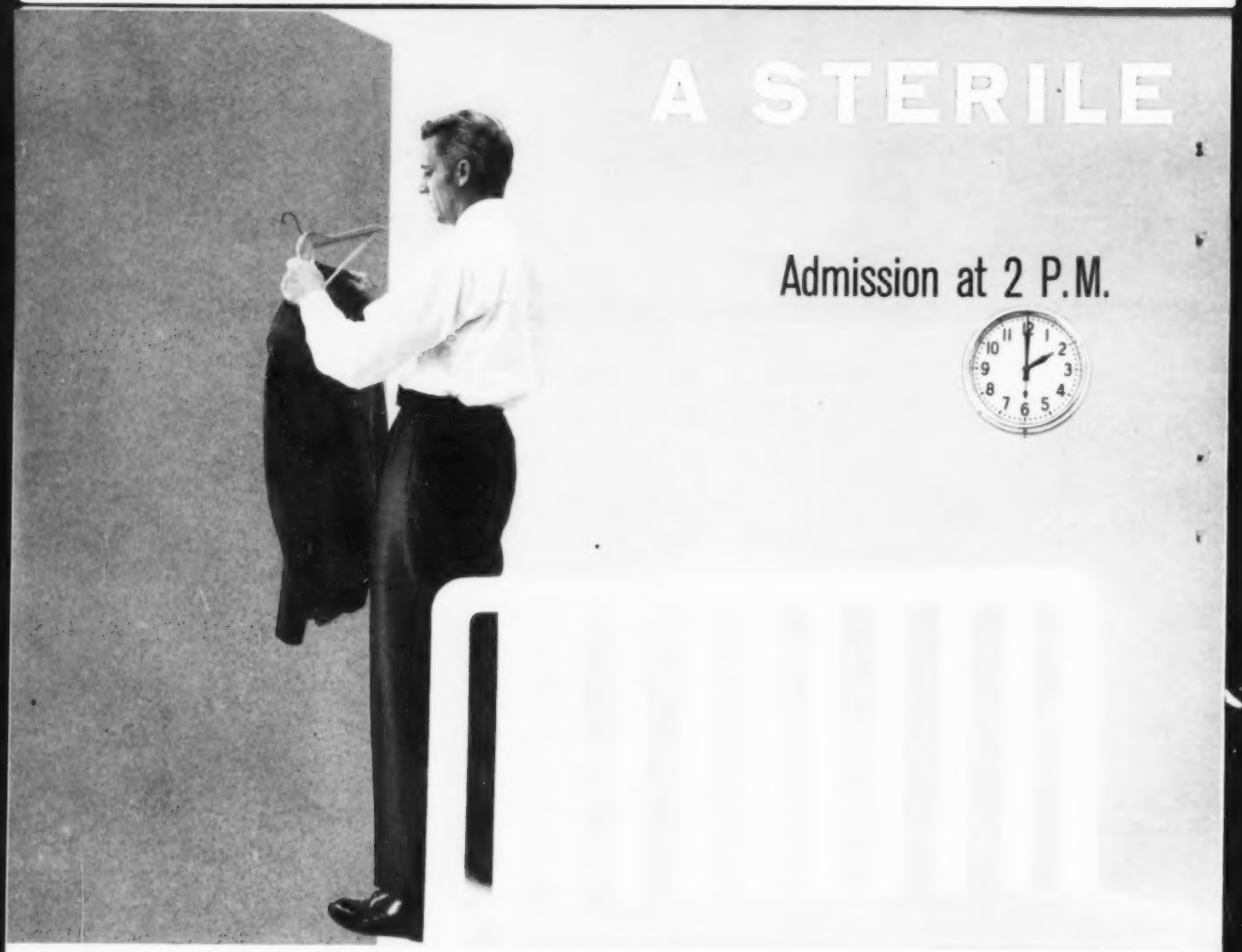
MORRIS PLAINS, N. J.



CONTENTS

Continued

Departments	19a	Therapeutic Reference
	27a	Off the Record
	33a	Diagnosis Please!
	40a	Coroner's Corner
	47a	What's Your Verdict? (Unusual medico-legal cases)
	53a	After Hours (Doctors' Hobbies)
	63a	Medical Teasers (Crossword puzzle)
	71a	Who Is This Doctor?
	77a	Mediquiz
	97a	Modern Medicinals
	174a	Modern Therapeutics (Abstracts)
	204a	News and Notes
	260a	Covering the Times
	262a	Advertiser's Index
Travel	158a	Florida's Big Season
	168a	Golfer's Haven
	170a	Calendar of Medical Meetings
Investing	120a	The Natural Gas Industry
		Ogden Forsakes Its Shell
		A Good Year for Construction
		Raises Few in Upper Echelon
		Fibreboard Paper Products
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1. Poth, E. J.: Intestinal Antisepsis in Surgery, J.A.M.A. 153:1516, Dec. 26, 1953.

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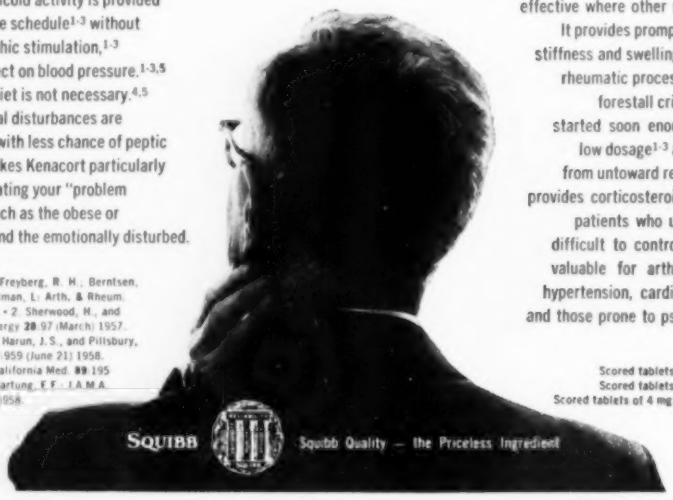


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REFERENCES: • 1. Freyberg, R. H., Berntsen, C. A., Jr., and Heilman, L.: Arth. & Rheum. **1**:215 (June) 1958. • 2. Sherwood, H., and Cooke, R. A.: J. Allergy **28**:97 (March) 1957. • 3. Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.: J.A.M.A. **167**:959 (June 21) 1958. • 4. Dubois, E. L.: California Med. **89**:195 (Sept.) 1958. • 5. Hartung, E. F.: J.A.M.A. **167**:973 (June 21) 1958.



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1. Clin. Med. 2:1009, 1955.
2. Amer. Pract. & Digest Treat. 9:1447, 1956.
3. Clin. Med. 3:1059, 1956.
4. Unpublished data.

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Therapeutic Reference

The following index contains all the products advertised in this issue. Each product has been listed under the heading describing its major function. By referring to the pages listed, the reader can obtain more information. All of the products listed are registered trademarks, except those with an asterisk(*).

Allergic Disorders and Asthma

Allergy Service* 248a
Anergex 18a
Aristocort 139a, 140a, 141a, 142a
Benadryl 79a
Caytine 8a
Medihaler 249a
Medrol 48a, 131a
Norisodrine 118a
Tedral 263a

Analgesics, Narcotics, Sedatives and Anesthetics

Empirin 181a
Levo-Dromoran 80a
Nisentil 80a
Noctec 195a
Noludar 300, 24a, 25a
Pantopon 80a
Phenaphen with Codeine 129a: opposite page 129a
Synalgos 115a
Xylocaine HCL Solution 189a

Antibiotics and Chemotherapeutic Agents

Achromycin-V 38a, 39a, 62a
Cyclamycin 84a
Gantrisin 171a, 172a, 173a
Kantrex between pages 106a, 107a; 212a, 213a
Madribon 50a, 51a
Madricidin 196a, 197a
Madriqid 50a, 51a
Midicel 94a, 95a
Mysteclin-V 220a, 221a
Neothalidine 12a, 13a
Panalba 100a, 101a
Pen•Vee K 216a, 217a
Sumycin 76a
Tao 228a, 229a

Antispasmodics

Milpath 179a
Murel 162a, 163a
Pathibamate 156a, 157a

Arthritic-Rheumatic Disorders and Gout

Aristocort 139a, 140a, 141a, 142a
Aristogesic 58a, 59a
Bufferin 6a
Sigmagen 176a, 177a
Sterazolidin 117a

Biliary Disorders

Decholin 45a
Neocholan 113a

Cardiovascular Disorders

Butiserpine 119a
Cyclospasmol 4a
Diupres Between pages 200a, 201a
Diuril 60a, 61a
Gitaligin 41a
Hesperidin and Lemon Bioflavonoid Complex 42a
Metamine Sustained 264a
Miltown 207a
Miltrate 205a
Peritrate 10a
Serpasil 3a
Serpasil/Apresoline 56a
Singoserp 150a, 151a, 152a, 153a
Unitensen 74a

Central Nervous Stimulants

Deaner 112a
Deprol 52a

Contraceptives

Delfen 239a
Koroflex 35a
Lanesta Gel 232a
Ramses 90a, 155a

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Benylin Expectorant 175a
Coricidin Syrup 209a
Dilaudid Cough Syrup 22a
Hycomine 233a
Pentazets 78a
Phenergan Expectorant 91a
Pyribenzamine Expectorant 106a
Romilar CF 215a
Tessalon Perles 86a, 87a
Tussionex 116a

Diabetes

Orinase 30a, 31a

Diagnostic Agents

Regitine 92a

Diarrheal Disorders

Cremomycin 125a

Epilepsy

Mysoline 93a

Eye, Ear & Nose Preparations

Biomydrin Nasal Spray & Drops 44a
Cerumenex 108a
Neo-Hydeltrasol Nasal 169a
Neo-Hydeltrasol Ophthalmic 28a
Otobiotic 259a
Privine 182a

Glaucoma

Diamox 225a

G.U. Preparations and Antiseptics

Azo Gantrisin Cover 2
Azotrex 148a, 149a
Furadantin 57a

Hematinics

Falvin 69a
Globotrin 165a

Hemorrhoids and Rectal Disorders

Wyanoids HC 34a

Hemostasis

Konakion 70a
Mephyton 252, 253a
Premarin Intravenous 65a

Herpes Zoster

Protamide 199a

Impotence

Glukor 218a

Infant Formulas and Milks

Carnalac 37a

Inflammation

Chymar 109a

Institutional

Kapseals Between pages 160a, 161a

Laxatives and Anticonstipation Preparations

Caroid and Bile Salts Tablets 64a
Celginace 184a
Combinace 185a
Dorbane 123a
Doxical 104a
Doxidan 43a
Kondremul 164a
Senokot 108a

Mumps

Hyparotin 256a

Muscle Relaxants

Miltown 46a
Parafon 211a
Parafon with Prednisolone 211a; opposite page 128a
Robaxin 128a

now available

*DILAUDID
Cough Syrup

for coughs that *must* be controlled



dependable
convenient
pleasant tasting
economical

Formula: Each 5 cc. (1 teaspoonful) contains:
DILAUDID hydrochloride . . 1 mg. (1/64 gr.)
Glyceryl guaiacolate . . . 100 mg. (1½ gr.)
in a pleasant peach-flavored syrup
containing 5 per cent alcohol.

Dose: 1 teaspoonful (5 cc.) repeated in three to four hours.
(for children adjust dose according to age)

*Subject to Federal narcotic regulations.

Dilaudid,® brand of dihydromorphinone, E. Bilhuber, Inc.

KNOLL PHARMACEUTICAL COMPANY ORANGE NEW JERSEY
(formerly Bilhuber-Knoll Corp.)



Therapeutic Reference

Parkinsonism

Cogentin 145a

Polio

Polio Immune Globulin 242a

Pre-Menstrual—Menstrual Tension

Halodrin 192a, 193a
Milprem 14a
PMB-200 102a

Skin Disorders and Antibacterials

Acnomel 68a
Ascorbacaine 206a
Capsebon 136a, 137a
Cort-Acne Lotion 242a
Desitin Acne Cream 72a
Diaparene Ointment 188a
Fostex 237a
Furacin 183a
Rezamid Lotion 242a
Sterosan Hydrocortisone 133a
Sulpho-lac 248a
Vitamin A & D Ointment 82a

Steroids and Hormones

Ana-Dome Tablets 235a
Aristocort 139a, 140a, 141a, 142a
Armour Thyroid 247a
Decadron Between pages 34a, 35a; 85a; Cover 4
Deronil 98a, 99a
Enovid 96a
Kenacort 16a
Stenisone Cover 3
Ultandren 26a

Teething

Co-Nib 256a

Tranquilizers

Prozine Between pages 42a, 43a
Sparine 159a

Ulcer Management

Aludrox SA 75a
Donnalate 111a
Pepulcin 191a
Vanul 240a, 241a

Upper Respiratory Infection Preparations

Achrocidin 127a
Duadacin 134a
Kryl 54a, 55a
Novahistine LP 147a
Numotizine 243a
Orabiotic 203a
Rynatan 187a
Sinutab 107a
Sudafed 36a
Syntussin 32a

Vaginal Preparations

Lycinate 251a
Massengill Powder Between pages 74a, 75a
Premarin Cream 20a
Quinettes 226a
Trichotine 255a, 257a
Vagisec 66a

Vitamins and Nutrients

Beminal Forte with Vitamin C 219a
Eldec 67a
Filibon 103a
Formatone 227a
Gevral 110a, 146a, 198a, 238a
Livitamin Between pages 232a, 233a
Mol-Iron Prenatal 135a
Myadec 223a
Natalins 73a
Ritonic 244a, 245a
Stresscaps 88a
Viterra 81a

Weight Control

Levonor 261a
Preludin 49a



Your patients will say

"I slept like a log"

after taking **NEW**

NOW in any language, NOLUDAR 300 is synonymous with sound, restful sleep.

EFFECTIVE: New NOLUDAR 300 acts promptly to induce sound, refreshing sleep of normal duration and quality [1,2,3] . . . followed by a clear-eyed awakening, without "hangover" effects.

SAFE: NOLUDAR 300 is free of barbiturate risks such as addiction or overdosage. Even minor side reactions are rare.[1,2,4] In terms of safety, NOLUDAR "appears to afford all one can possibly expect from a drug of this type."[1]

HIGHLY ACCEPTABLE: In a study of 1015 cases,[1] all patients expressed satisfaction with the quality of action" of NOLUDAR. ". . . 97.9 per cent rated the hypnotic effect of NOLUDAR as at least equal, or superior to barbiturates they had previously received."

INDICATIONS: Insomnia due to mental unrest, excitement, fear, worry, apprehension or extreme fatigue.

DOSAGE: Adults—One 300-mg capsule before retiring. Do not exceed prescribed dosage.

REFERENCES:

1. O. Brandman, J. Coniaris and H. E. Keller, *J.M. Soc. New Jersey, 52*:246, 1955.
2. L. J. Cass, W. S. Frederik and J. B. Andosca, *New England J. Med., 253*:586, 1955.
3. E. H. Loughlin, W. G. Millin, J. Schwimmer and M. Schwimmer, *Internat. Rec. Med., 168*:52, 1955.
4. P. A. Radnay, *Postgrad. Med., 21*:617, 1957.

NOLUDAR®—brand of methyprylon

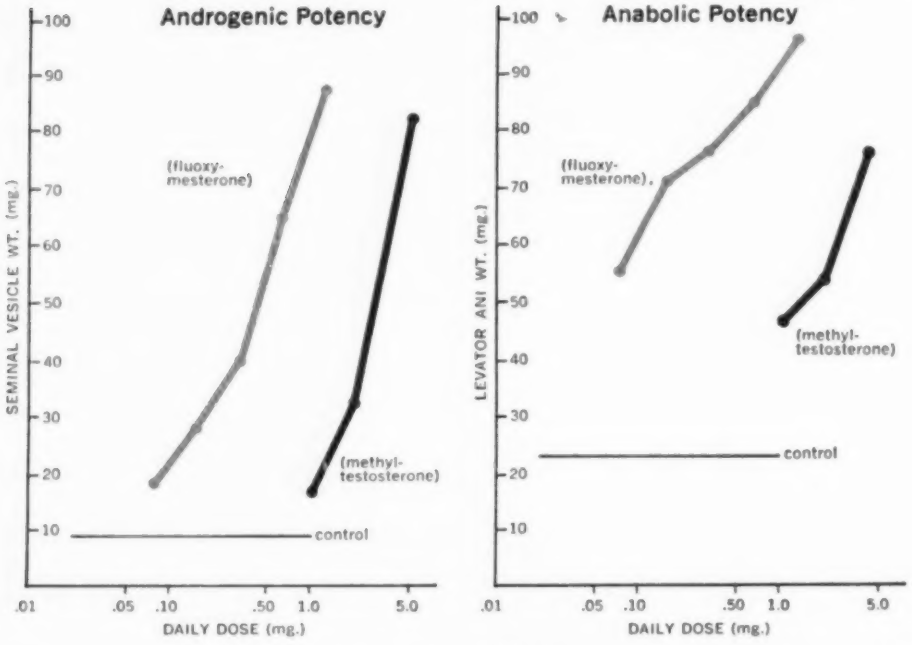
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NOLUDAR 300 CAPSULES

the ULTIMATE

In a comparison of androgenic and anabolic activity, clinical studies show that at least five times as many milligrams of methyltestosterone are needed to provide the same effect as fluoxymesterone.*

*Charts adapted from Lyster, S. C., Lund, G. H., and Stafford, R. O.: Endocrinology 58:781 (June) 1956.



in androgen therapy Ultandren T.M.

(fluoxymesterone CIBA)

an oral androgen with at least five times the potency of methyltestosterone tablets, and even greater clinical potential than intramuscular testosterone preparations

Ultandren permits easily controlled administration of androgen therapy—without painful injections, local reactions or skipped doses. Weight for weight, it has an even greater therapeutic potency than parenterally administered testosterone derivatives, and at least five times the androgenic and anabolic activity of methyltestosterone tablets. Moreover, Ultandren does not increase undesirable effects such as virilism in females, and in therapeutic doses it induces little or no sodium and water retention. Jaundice, occasionally encountered with usual androgen therapy, has not been reported.

SUPPLIED: *Tablets*, 2 mg. (light-green, scored) and 5 mg. (violet, scored); bottles of 40.

CIBA



Off the Record...

True Stories From Our Readers

Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

Parson Age

Recently my preacher, an elderly gentleman, was in the office complaining of just about everything. Finding no organic pathology, I gave him a large sample bottle of a Geriatric Tonic. I told him it would make him feel better all over and, in doses of three teaspoonsful a day, would make him love everybody—even if they were young, pretty widows.

I noticed that he had written something on the bottle, asked to see what it was and then grinned out loud. On the bottle he had written, "teaspoonful 3 times day after widow." Hurriedly, a very much improved but chagrined parson left the doctor's office.

T.C.W., M.D.
Valdosta, Ga.

Habit Forming

One day I was called to the emergency room at our hospital to see an acutely agitated female about 25-years-of-age. When I had secured a secluded area in which to interview the patient, I found that the cause of her difficulty was simply an acute anxiety state, which occurred after a friend of her acquaintance had attempted to rape her at a party a short while before.

Examination revealed no injuries, and I explained to her that I was going to give her a hypodermic injection, which would let her rest and sleep. "Doctor, that needle isn't going to be too strong, is it?" she exclaimed! I told her that it would not and asked her why she was so concerned. "Because," she answered, "I want to go back to the party."

M.E.H., Jr., M.D.
Petersburg, Va.

A Young Mother

When a young mother of a three-year-old came to my office for me to ascertain why she had not had further children, I asked her in the course of taking her history how long it took her to get pregnant with her first child. She replied, "about three minutes."

J.H.I., M.D.
Martinsville, Va.

A Misunderstanding

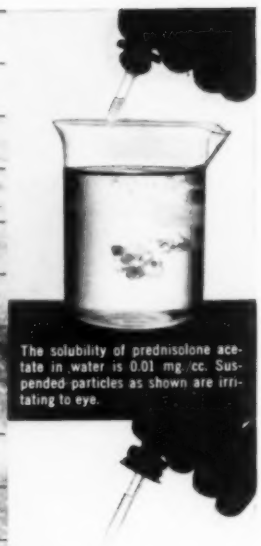
I won't soon forget, though it has been at least ten years since I've seen her, the young lady who inadvertently taught me not to be too "breezy" with my patients.

I had delivered her first baby (complete with episiotomy) and was making a routine visit on the third or fourth postpartum day. As I came into the room I saw that she had the baby with her. Feeling quite gay (and somewhat pleased with myself) I quipped, "How's your little bambino today?"

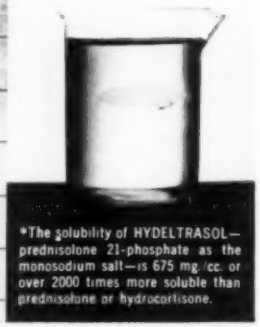
Sweet and smiling and yet deadly serious the young mother responded, "Oh, a little sore yet, but otherwise just fine."

Concluded on page 29a





The solubility of prednisolone acetate in water is 0.01 mg./cc. Suspended particles as shown are irritating to eye.



*The solubility of HYDELTRASOL—prednisolone 21-phosphate as the monosodium salt—is 675 mg./cc. or over 2000 times more soluble than prednisolone or hydrocortisone.

STERILE OPHTHALMIC SOLUTION

NEO-HYDELTRASOL®

(prednisolone 21-phosphate with neomycin sulfate)

2000 times more soluble than prednisolone or hydrocortisone*

- free of any particulate matter capable of injuring ocular tissues.
- uniformly higher effective levels of prednisolone.

SUPPLIED: Sterile Ophthalmic Solution NEO-HYDELTRASOL 0.5% (with neomycin sulfate) and Sterile Ophthalmic Solution HYDELTRASOL 0.5%. In 5 cc. and 2.5 cc. dropper vials. Also available as Ophthalmic Ointment NEO-HYDELTRASOL 0.25% (with neomycin sulfate) and Ophthalmic Ointment HYDELTRASOL 0.25%. In 3.5 Gm. tubes.
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MSD

MERCK SHARP & DOHME

Division of MERCK & CO., Inc., Philadelphia 1, Pa.

Off the Record...

Concluded from page 27a

I don't recall what I said in reply, but I still remember that I got away fast and swore a great oath that henceforth my joviality would be tempered a bit when on hospital rounds.

J.A.W., M.D.
Bremerton, Wash.

Quo Vadis

After getting to bed rather late one night and having left a patient suffering from a terminal carcinoma several hours before, I was rather sleepy and groggy when the telephone rang. The wife of the terminal carcinoma patient called me by name and said, "Virgil (her husband's name) has just left." To this, in a rather sleepy stupor, I absent-mindedly replied, "Where did he go?" It was at this time that I awakened sufficiently to realize what I had said and shortly corrected the situation and, even in those dire moments, the wife thought that this was a rather humorous situation.

R.W.G., M.D.
Ponca City, Okla.

Doctor's Choice

A pre-natal obstetrical patient was in my office for her usual monthly examination. She was now in fifth month of pregnancy and I informed her: "Mrs. So-so, in the fifth month I eliminate sexual relations." Whereupon she unconcernedly and very factually retorted, "Oh, that's all right, Doctor. You do what you like and I'll do what I like."

J.M.M., M.D.
Brooklyn, N. Y.

Powdered

I have the ability, as many have, to swallow capsules without water. One day recently, before office hours, I took one of the dry filled vitamin capsules and about ten minutes later, before having a chance to take a drink, admitted a patient.

While talking to the patient, with my first breath and spoken word out came a cloud of powder! Apparently the capsule had stopped in its downward descent at the beginning of the esophagus and the force of air from the trachea blew out the undissolved powder. I don't believe I successfully convinced the bewildered patient of exactly what happened.

A.L.C., M.D.
East Orange, N.J.

Buried Treasure

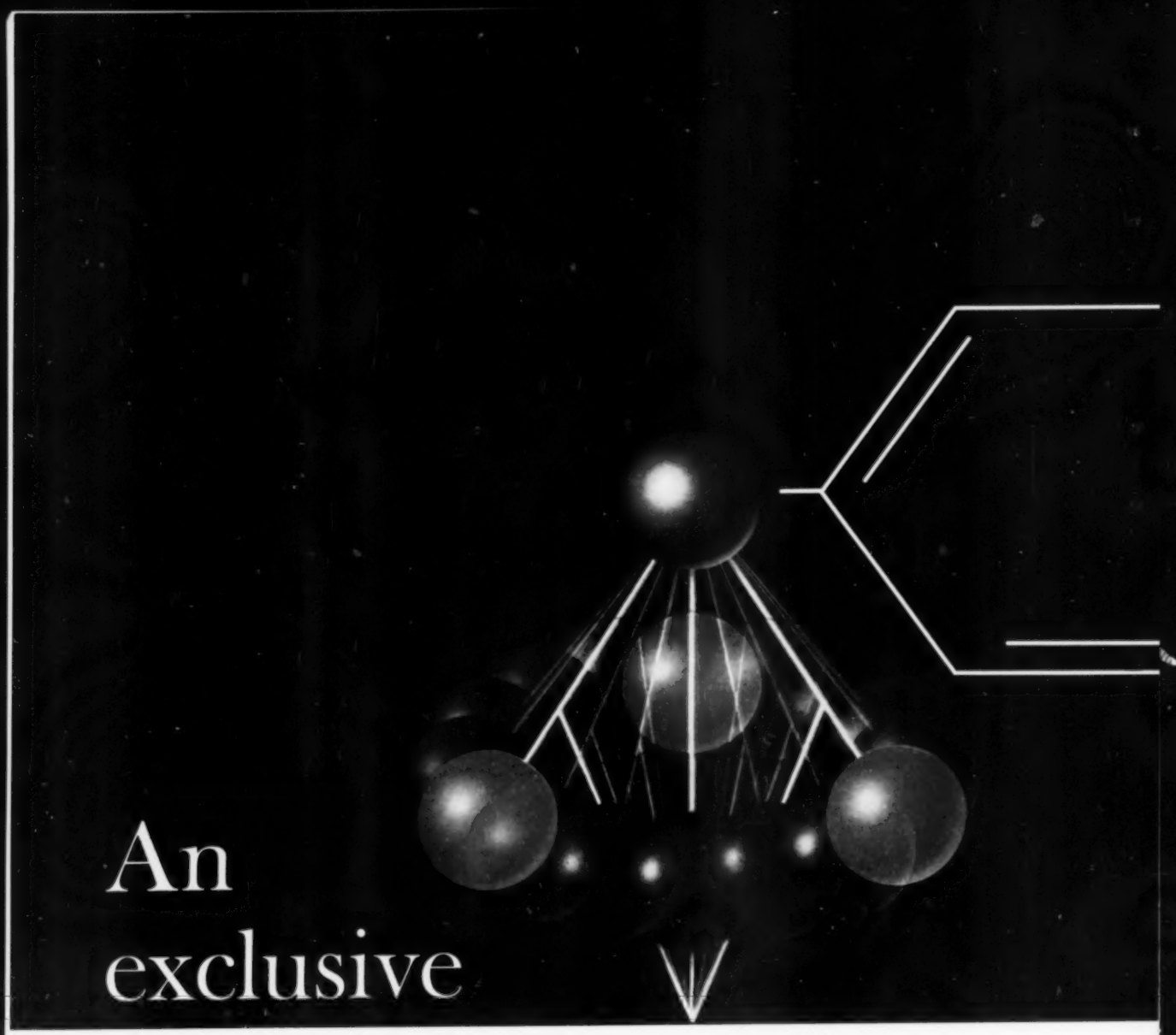
I am associated with an older general practitioner and on one rainy afternoon I was called to the home of a middle-aged woman. She had seen my associate on many occasions before, but this was our first meeting. Her symptoms were those of an upper respiratory infection, and I asked her to slip her gown off her shoulders so I might examine her chest. When this was done, I noted she had on a brassiere. During the examination of the chest, the lady had a sudden and severe paroxysm of coughing and out onto the bed popped a "falsie." She quickly grabbed this item and not knowing what to do with it, she thrust it under her axilla and depressed her arm in an effort to hide it. I gritted my teeth to keep from laughing during the rest of her examination.

O.T.G., M.D.
Richmond, Va.

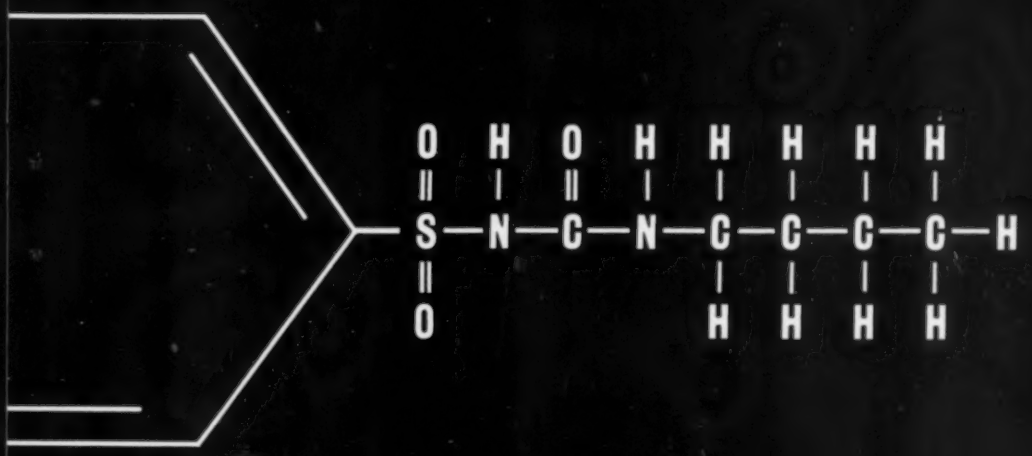
Boner

Recently a young woman came to my office with the complaint of vaginal pain. After a complete pelvic examination I informed her that, although we would have to await the report on the Pap. Smear, everything seemed to be all right. She immediately informed me "I can't help it, there is an awful lot of pain in my public bone."

R.M.G., M.D.
Norwich, N. Y.



An exclusive methyl "governor" prevents hypoglycemia.... makes Orinase* a true euglycemic agent



The significant difference between Orinase and all other anti-diabetes agents is that there is virtually no danger of hypoglycemic reactions as a result of Orinase therapy, regardless of dosage.

A logical explanation is that Orinase's exclusive methyl group in the para position serves as a "governor" to prevent hypoglycemia by facilitating the rapid inactivation of the molecule in the body. There is no *cumulative* effect.

The result is that, in patients in whom maintenance dosage has been established, Orinase lowers the blood sugar *to* normal levels, but almost never *beyond* that point. In other words, Orinase is a true *eu*glycemic agent, in contradistinction to the others, which actually *are* hypoglycemic agents.

This unique margin of safety is especially important in the patient requiring insulin, because Orinase, superimposed on his insulin dosage, constitutes no added danger of hypoglycemia. This makes it feasible for you to smooth out the "peaks and valleys" of erratic blood sugar levels... to "stabilize" a surprising percentage of labile diabetics.

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The Upjohn Company
Kalamazoo, Michigan

Upjohn

Her

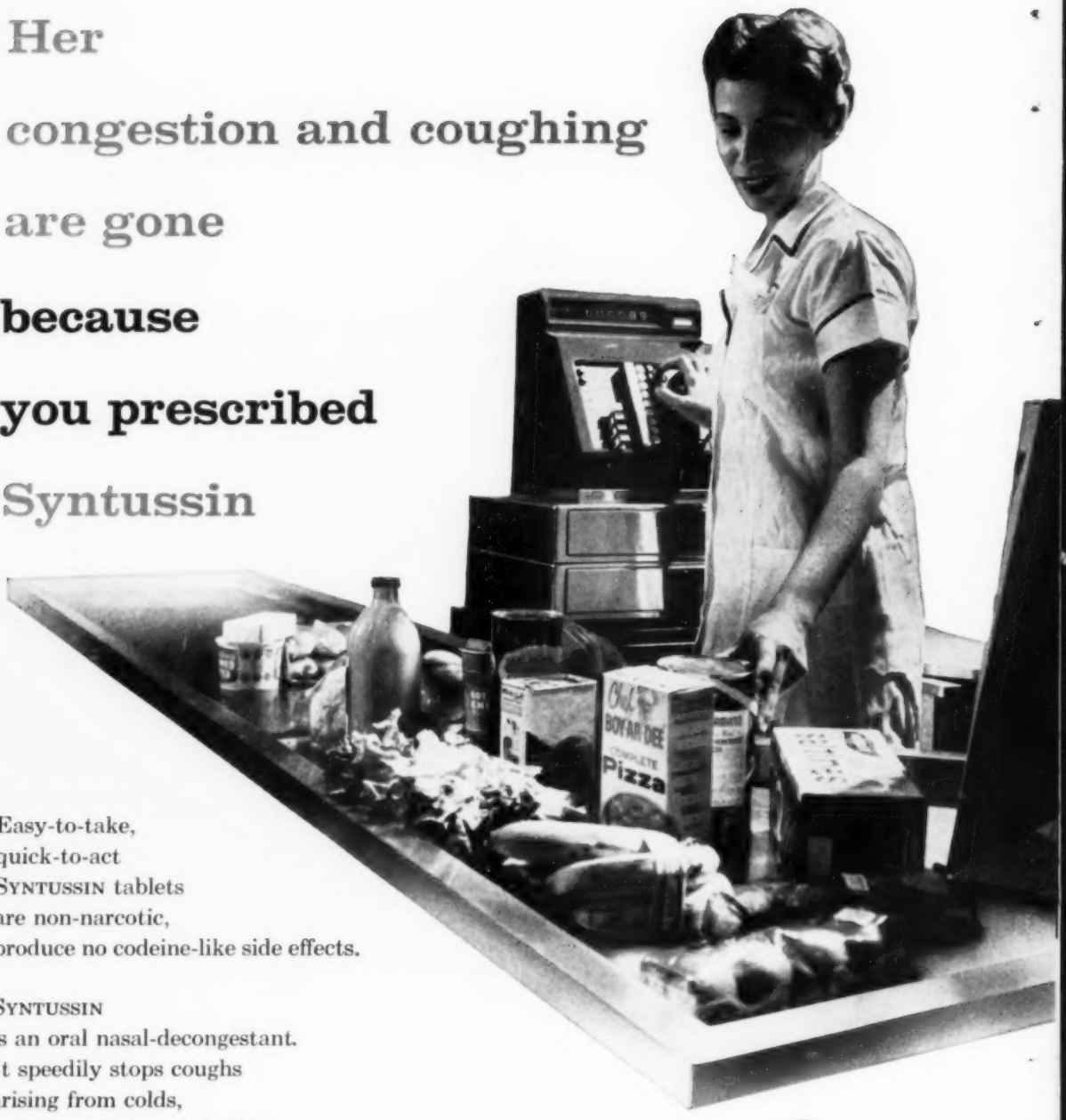
congestion and coughing

are gone

because

you prescribed

Syntussin



Easy-to-take,
quick-to-act
SYNTUSSIN tablets
are non-narcotic,
produce no codeine-like side effects.

SYNTUSSIN
is an oral nasal-decongestant.
It speedily stops coughs
arising from colds,
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TABLETS

SYNTUSSIN*

Each tablet contains chlorpheniramine maleate, 2 mg., phenylephrine hydrochloride, 7.5 mg., dextromethorphan hydrobromide, 10 mg., and terpin hydrate, 64.8 mg.

*Trademark



Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

WHICH IS YOUR DIAGNOSIS?

1. Cancer of the esophagus
2. Curling of the esophagus
3. Varices

Answer on page 258a



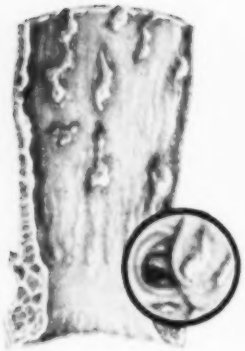
Now
in inflammatory anorectal disorders . . .

The Promise of Greater Relief

the first suppository to contain

hydrocortisone for effective control of proctitis

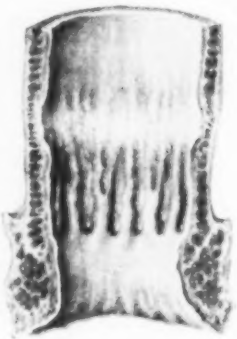
- Proctitis accompanying ulcerative colitis
- Radiation proctitis
- Postoperative scar tissue with inflammatory reaction
- Acute and chronic nonspecific proctitis
- Acute internal hemorrhoids
- Medication proctitis
- Cryptitis



Ulcerative Colitis



Radiation Proctitis



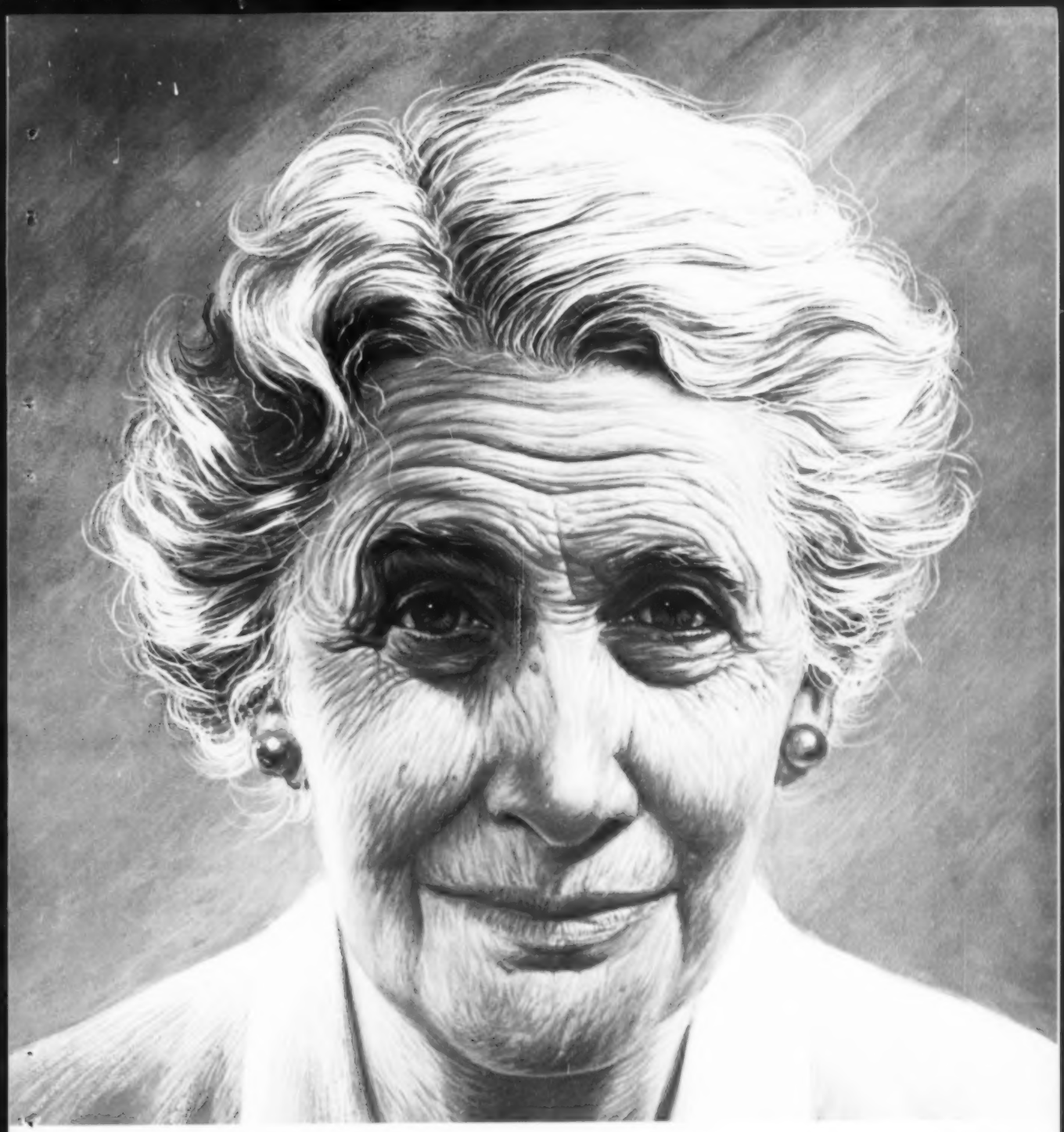
Postoperative Scar Tissue

Supplied: Suppositories, boxes of 12. Each suppository contains 10 mg. hydrocortisone acetate, 15 mg. extract belladonna (0.19 mg. equiv. total alkaloids), 3 mg. ephedrine sulfate, zinc oxide, boric acid, bismuth oxyiodide, bismuth subcarbonate, and balsam peru in an oleaginous base.

Wyanoids® HC

Rectal Suppositories with Hydrocortisone, Wyeth

Wyeth



over and above the rapid relief and improvement of symptoms

Decadron helps restore a "natural" sense of well-being

THE MOST EFFECTIVE OF ALL ANTI-INFLAMMATORY CORTICOSTEROIDS

Decadron

DEXAMETHASONE

to treat more patients more effectively

Merck Sharp & Dohme

the crowning achievement of the first corticosteroid decade



Decadron*

DEXAMETHASONE

to treat more patients more effectively

Comprehensive and thorough clinical trials show that **DECADRON** on a milligram basis is the most effective of all oral corticosteroids ■ **DECADRON** is virtually free of sodium retention, potassium depletion, hypertension, or edema ■ **DECADRON** is virtually free of diabetogenic effect in therapeutic doses ■ **DECADRON** has not caused any new or unusual reactions ■ **DECADRON** helps restore a "natural" sense of well-being.

INDICATIONS: All allergic and inflammatory disorders amenable to corticosteroid therapy. **CONTRAINDICATIONS:** Herpes simplex of the eye is an absolute contraindication to corticosteroid therapy. DECADRON should be administered with the same precautions observed with other corticosteroid therapy. **DOSAGE AND ADMINISTRATION:** Transfer of patients from other corticosteroids to DECADRON may usually be accomplished on the basis of the following milligram equivalence:

one 0.75 mg. tablet of **Decadron*** (dexamethasone) replaces:

One 4 mg. tablet of	One 5 mg. tablet of	One 20 mg. tablet of	One 25 mg. tablet of
methylprednisolone or triamcinolone	prednisolone or prednisone	hydrocortisone	cortisone

SUPPLIED: As 0.75 mg. scored pentagon-shaped tablets. Also as 0.5 mg. tablets, to provide maximal individualized flexibility of dosage adjustment, since many patients achieve adequate control even on lower dosage.

Detailed literature is available on request.

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WHEN THE TECHNIQUE
CALLS FOR A DIAPHRAGM...
the trend is toward the
NEW *Koro-Flex*

(CONTOURING)
DIAPHRAGM *worth investigation*



Six reasons why physicians are recommending Koro-Flex

1. Ease of insertion, automatic placement.
2. Reduces physician's fitting, instruction periods.
3. Develops patients' confidence.
4. Folds behind pubic bone with suction-like action, forming an effective barrier.
5. Locks in spermicidal lubricant, delivers it directly under and next to the os uteri.
6. Simple to remove.

KORO-FLEX (contouring) Diaphragm acceptable, not only where ordinary coil-spring diaphragms are indicated but for Flat rim (Mensinga) type as well.

Suggest the convenient-economical KORO-FLEX COMPACT 60-95 mm



Feminine Clutch-style bag with zipper closure. Diaphragm, tube KOROMEX Jelly (3 oz.) Cream (1 oz. trial size)

KORO-FLEX

CONTOURING SPRING (ARCING TYPE)

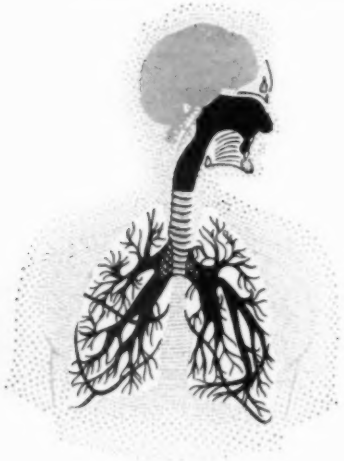
Available in all prescription pharmacies. Write for descriptive literature. The coil spring diaphragm is available in the Koromex Compact.



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NOW—pleasant-tasting

'SUDAFED'® brand SYRUP



oral 'SUDAFED'®

for

NASAL DECONGESTION PLUS

decongestion of the mucosa of the entire respiratory tract

- QUICK RELIEF—15 TO 30 MINUTES
- GENTLE, PROLONGED ACTION—4 TO 6 HOURS
- SELDOM CAUSES CENTRAL STIMULATION

dosage for adults: 60 mg., 3 or 4 times daily children—4 mos. to 6 yrs.: 30 mg., 3 or 4 times daily

'Sudafed' brand Pseudoephedrine Hydrochloride Tablets—30 mg. sugar coated, 60 mg. scored
Syrup—30 mg. per 5 cc. teaspoonful

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

NEW from Carnation!



CARNALAC is a standard Carnation Evaporated Milk formula, as usually specified—in convenient, ready-prepared form. The mother just adds water. For complete nutritional information and useful service material, just ask your Carnation representative.

Now 2 ways to specify Carnation

1 NEW CARNALAC FOR MAXIMUM CONVENIENCE

Diluted 1:1, new CARNALAC provides protein 2.8%; carbohydrate 7.1%; 3.2% fat; 400 I.U. Vitamin D per quart; 20 calories per oz.

The carbohydrate of CARNALAC diluted 1:1 consists of 4.9% lactose from the milk, plus 2.2% added maltose-dextrin syrup (approximately 2 parts maltose, 1 part dextrins).



2 CARNATION EVAPORATED MILK FOR MAXIMUM FLEXIBILITY AND ECONOMY


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a Division of AMERICAN CYANAMID COMPANY

Pearl River, New York



Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

A 73 year old male recluse lived alone in a small trailer. A neighbor observed the trailer to be on fire and called the Fire Department. They arrived, and the fire was brought under control. Inside, the charred remains of the old recluse were found. His right arm above the wrist had been severed apparently with a heavy sharp instrument. The radius and ulna bones were protruding and charred. The edges of the severed bones revealed two distinct severance planes. There were multiple fractures of the skull with the underlying softened brain interrupted and exposed. The door of the trailer was locked and the windows closed. The key could not be located. No weapon was found. The coroner suspected foul play with a mutilating attacker, setting fire to the trailer, locking the door and escaping.

In addition to the burns and fractures, autopsy revealed severe arteriosclerosis, a blood alcohol level of 368 mgm.% and a carbon monoxide saturation 85%.

The Chief Fireman was called and the following additional information was obtained. When they arrived on the scene, the trailer was tightly closed and the fire inside was smouldering. They cut through the side of the trailer near where the body was lying, thus accounting for the severed right arm. When they cut through the wall, the fire immediately blazed up, thus accounting for the charred ends of the exposed bones. The explosion of the skull due to heat is a common finding, the fragments being directed out rather than in when caused by a blow. What on the surface appeared to be homicide was actually acute alcoholism and stupor or coma with death due to carbon monoxide, as a result of fire of unknown origin but most likely due to a cigarette or match. The key was later found.

W.C.W., M.D., Denver, Colorado



"SAFE AND
EFFECTIVE
MAINTENANCE
THERAPY...HAD
BEEN A
PROBLEM AT
OUR
INSTITUTION
UNTIL WE
USED GITALIN [GITALIGIN]..." *

GITALIGIN®†

GITALIGIN 0.5 mg. Tablets—bottles of 30 & 100
GITALIGIN Injection Ampuls—2.5 mg. in 5 cc. sterile, I.V. solution
GITALIGIN Drops—30 cc. bottle with special calibrated dropper.

Arteriosclerotic Heart Disease



WIDEST SAFETY MARGIN—Average therapeutic dose is only ⅓ the toxic dose.‡

FASTER RATE OF ELIMINATION THAN DIGITOXIN or digitalis leaf.

THESE SIMPLE DOSAGE EQUIVALENTS MAKE IT EASY TO SWITCH YOUR PATIENT TO GITALIGIN—0.5 mg. of Gitaligin is approximately equivalent to 0.1 Gm. digitalis leaf, 0.5 mg. digoxin or 0.1 mg. digitoxin.

*Harris, R., and Del Giacco, R. R.: Am. Heart J. 52:300, 1956.

†White's brand of amorphous gitalin.

‡Bibliography available on request.

White's

WHITE LABORATORIES, INC.
KENILWORTH, N. J.

IN STRESS CONDITIONS

SUCH AS:

- Spontaneous abortion
- Inflammatory diseases
- Infectious diseases
- Cardiovascular diseases
- Metabolic diseases

CAPILLARY AND VASCULAR DAMAGE ARE COMMON FINDINGS

In these stress conditions whether caused by nutritional deficiencies, environment, drugs, chemicals, toxins, virus or infections

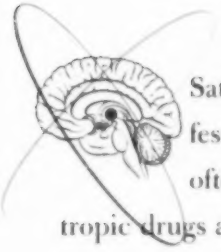
HESPERIDIN, HESPERIDIN METHYL CHALCONE or LEMON BIOFLAVONOID COMPLEX

are indicated as therapeutic adjuncts for the control and management of the associated capillary and vascular damage.

Sunkist and Exchange Brand Hesperidin and Lemon Bioflavonoid Complex are available to the medical profession in specialty formulations developed by leading pharmaceutical manufacturers.

Sunkist Growers

PRODUCTS SALES DEPARTMENT
PHARMACEUTICAL DIVISION
ONTARIO, CALIFORNIA



new concept

Satisfactory modification of the manifestations of abnormal brain activity is often achieved with individual psychotropic drugs acting on a single sector of the brain. In many patients, however, and despite high dosages, or change to another agent, response is only partial and is associated with lethargy and other more undesirable by-effects. Investigators have postulated that agents which will simultaneously alter the activity of more than one sector of the brain might produce a more satisfactory modification of undesirable emotional and behavioral patterns, thereby promoting a greatly improved total patient-response. To test this theory investigators recently have administered a low dosage of promazine, a phenothiazine, with a low dosage of meprobamate. The enhanced beneficial response elicited by this low-dosage dual attack is provided by PROZINE and warrants your consideration.

PROZINE

new agent

PROZINE*

meprobamate and promazine hydrochloride, Wyeth

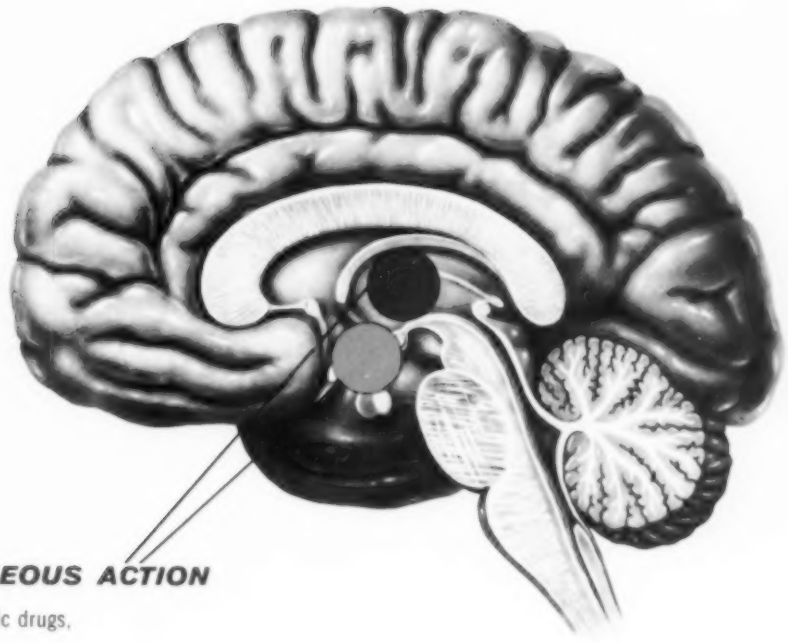
SPECIFIC CONTROL THROUGH DUAL ACTION

PROZINE controls anxiety and tension as well as motor excitability. This effect on the components of emotional reaction is possible because of the dual sites of action of PROZINE—the thalamic and hypothalamic areas of the brain. The unique dual action of PROZINE enables the physician to exert more specific control of emotionally disturbed patients. PROZINE is indicated in patients with a primary emotional disturbance, in patients with emotional disturbance unrelated to their organic disease, and in patients emotionally disturbed by primary organic disease.

PROZINE controls moderate to severe emotional disturbance manifested by apprehension and agitation, insomnia, depression, nausea and vomiting, gastrointestinal disturbances, alcoholism, menopausal symptoms, or premenstrual tension.

PROZINE in the recommended dosage (1 or 2 capsules, 3 or 4 times daily) produces more specific control than is obtainable with high doses of other ataractic agents. The benefits of a low-dosage regimen are unmistakable.

*Trademark



SIMULTANEOUS ACTION

of two psychotropic drugs,
affecting two areas
of the brain, produces
more ***SPECIFIC CONTROL***

thus

in emotionally disturbed patients on PROZINE the dose required is diminished to the point where the incidence of side-effects and toxicity reactions is minimal and the patient is calm, tranquil, and amenable to additional therapy, whether it be educational, medical, or psychiatric.

PROZINE



PROZINE

SPECIFIC CONTROL THROUGH DUAL ACTION

The physician will see many applications for PROZINE in his day to day practice, particularly in overly apprehensive medical patients (including surgical and obstetrical cases) and in the management of emotional problems of children, adolescents and the aged; also in emotionally disturbed patients who receive little or no relief from analgesics, barbiturates, anticholinergics, antihypertensives, hormones (estrogens and corticoids). The dosages of these drugs may be dramatically reduced.



SUPPLIED: PROZINE—Bottles of 50 capsules. Each green and white capsule contains 200 mg. meprobamate and 25 mg. promazine hydrochloride.

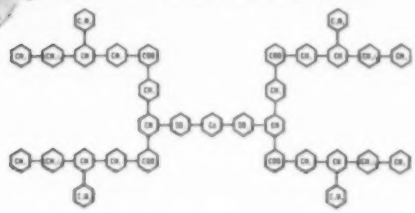
Comprehensive literature is available

Wyeth

Philadelphia 1, Pa.



NEW THERAPEUTIC CHEMICAL



a NEW DIMENSION IN THE TREATMENT OF CONSTIPATION

DOXIDAN

The Surfactant Laxative

"Ideal" laxative therapy has now been made possible by the application of a new principle based on the double surfactancy of the new therapeutic chemical, calcium bis-(dioctyl sulfosuccinate).

Doxidan provides positive, reliable laxative action with:

- Greatly reduced laxative dosage and optimal surfactancy.
- The least possible disturbance of normal body physiology.
- Freedom from the discomfort of bowel distention.
- Freedom from "oily leakage" and interference with vitamin absorption.
- Freedom from pain and "cramping."
- Greatly reduced risk of laxative habituation.

No longer is a "cathartic flush" needed to expel a hardened resistant fecal mass. Instead, once calcium bis-(dioctyl sulfosuccinate) has rendered the mass malleable and mobile, a gentle peristaltic stimulant is all that is needed to correct bowel dysfunction.

Doxidan is a true synergistic combination of calcium bis-(dioctyl sulfosuccinate), the new surfactant fecal softener, and Danthron, a mild peristaltic stimulant which acts solely in the lower bowel.

This new dimension in treatment (Doxidan therapy) results in soft, "normal" stools gently stimulated to evacuation.

Each maroon soft gelatin capsule contains 50 mg. Danthron (1,8-dihydroxyanthraquinone) and 60 mg. calcium bis-(dioctyl sulfosuccinate).

dosage: For adults and children over 12, one or two capsules. For children, age 6 to 12, one capsule. Give at bedtime for 2 or 3 days or until bowel movements are normal.

supplied: Bottles of 30 and 100 soft gelatin capsules.

LLOYD BROTHERS, INC. CINCINNATI 3, OHIO

why **BIOMYDRIN** fulfills the seven requirements of a **"NOSE OPENER"**



Biomydrin **penetrates** the mucous barrier.

Biomydrin **spreads** almost instantly.

Biomydrin **clears** the air passages.

Biomydrin **decongests** without causing rebound congestion.

Biomydrin **controls** the allergic component.

Biomydrin **combats** infections.

Biomydrin is **safe**— so safe that no pediatric dosage form is needed.



Thonzonium bromide 0.05%; Neomycin sulfate 0.1%; Gramicidin 0.005%; Thonzylamine HCl 1.0%; Phenylephrine HCl 0.25%.

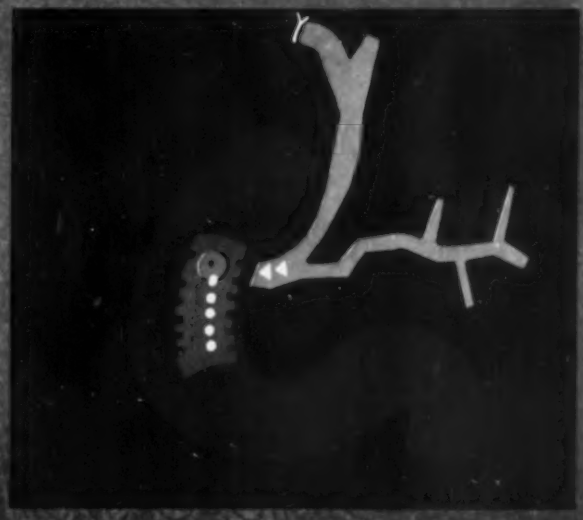
BIOMYDRIN®

nasal spray drops

WARNER CHILCOTT

MORRIS PLAINS, N. J.

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AMES
CLINIQUICK™
CLINICAL BRIEFS
FOR MODERN PRACTICE



How can the problem of "postcholecystectomy syndrome" be reduced?

A "routine" operative cholangiogram is now recommended in addition to thorough surgical exploration, reducing the number of cholecystectomized patients later presenting the same symptoms as before the operation.

Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

for pre- and postoperative management of biliary tract disorders... **DECHOLIN®** *"therapeutic bile"*

*Hydro*choleresis with DECHOLIN combats bile stasis by flushing the biliary tract with dilute, natural bile...

- corrects excessive bile concentration
- helps to thin gallbladder contents
- benefits patients with chronic cholecystitis, noncalculous cholangitis, and biliary dyskinesia

in functional G.I. distress... **DECHOLIN® with BELLADONNA**

- reliable spasmolysis
- improved liver function

available: DECHOLIN Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.). Bottles of 100, 500 and 1,000; drums of 5,000.

DECHOLIN with Belladonna Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.) and extract of belladonna ⅙ gr. (10 mg.). Bottles of 100 and 500.

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AMES
COMPANY, INC
Elkhart • Indiana
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Proven

in over three years of clinical use
in over 600 clinical studies

Specific

FOR RELIEF OF ANXIETY
AND MUSCLE TENSION

Selective

Does not interfere with autonomic function
Does not impair mental efficiency,
motor control, or normal behavior
Has not produced hypotension,
agranulocytosis or jaundice

MEPROBAMATE (WALLACE)

Miltown®

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

WALLACE LABORATORIES, New Brunswick, N. J.

CM-6043



What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

A child was admitted to the hospital with a diagnosis of convalescent chickenpox and scarlet fever. X-rays revealed pneumonia in the upper lobe of the right lung. A marked purulent discharge from the right ear, diagnosed as "beta hemolytic streptococcus," did not respond to treatment with sulfanilamide, and the boy's physician resorted to a mastoidectomy. Considerable excavation was necessitated by the necrotic condition of the mastoid.

The following day paralysis of the right side of the boy's face became evident. Attempts at correcting this injury failed, and the patient was discharged from the hospital. Some years later, when the boy reached legal maturity, he instituted a court proceeding against his physician.

The patient contends that the physician was negligent under either one of two theories. Either the facial nerve was exposed and severed in the course of the operation, or the facial canal was opened during the operation and the nerve compressed by over-tight packing.

The physician disputes the possibility of a facial nerve severance. Such a nerve injury produces immediate paralysis; whereas the patient's paralysis was not noticed until eighteen hours after the operation. Upon learning of the condition, he redressed the wound as a precaution against pressure, but denied that he had packed the wound too tightly. Paralysis may be due to causes free of negligence, such as an allergic reaction or the progress of an infection.

At the conclusion of the patient's case the trial court directed a verdict for the physician. On appeal, how would you decide?

Answer on page 258a



If you were to examine these patients



could you detect the asthmatic on Medrol*?

Probably not. Not without a history.

First, because he's more than likely symptom-free.

Second, because he shows none of the disturbing changes in appearance, behavior or metabolism sometimes associated with corticotherapy.

Even your practiced clinical eye would find it difficult to spot someone else's Medrol patient.

But in your own patients, you could see the advantages of Medrol right away. Why not try it?



Medrol hits the disease, but spares the patient

Upjohn The Upjohn Company, Kalamazoo, Michigan

*TRADEMARK, REG. U. S. PAT. OFF.—6-METHYLPREDNISOLONE, UPJOHN

WHEN THE BIG ISSUE IS ADIPOSE TISSUE

PRELUDIN®

(brand of phenmetrazine hydrochloride)

EXCLUSIVELY FOR WEIGHT REDUCTION

Because PRELUDIN curbs their appetites so effectively, patients find it easier to adhere to the diet you prescribe. As a result, of course, they lose weight—as much as 5 times the amount lost on placebo.[1] Unlike many anorexiants, PRELUDIN very seldom provokes insomnia, palpitation or restlessness.

EFFECTIVENESS SUSTAINED THROUGHOUT LONG-TERM MANAGEMENT

Obese patients on PRELUDIN regimens for periods of from 11 to 18 weeks have shown satisfactory average weekly weight losses which are sustained throughout the term of therapy. Results suggested that there is virtually no loss of effect on continued administration.[2]

PRELUDIN® (brand of phenmetrazine hydrochloride). Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

(1) Ressler, C.: J.A.M.A. **165**:135 (Sept. 14) 1957. (2) Feldman, R.; Alberton, E. C., and Craig, L.: California Med. **87**:408, 1957.

21 22 23 24

GEIGY

ARDSLEY, N. Y.



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The full therapeutic potential of new Madribon™

2,4-dimethoxy-6-sulfanilamido-1,3-diazine

A Unique New Antibacterial: While Madribon is classified chemically as a sulfonamide, it differs clinically from the other compounds in this category: (1) Madribon appears in the urine primarily as a highly soluble glucuronide. (2) Its activity *in vivo* is only slightly inhibited by PABA, suggesting earlier irreversible damage to the bacteria.

An Impressive Clinical Record: Already in wide use in private practice, Madribon has an extensive background of clinical studies involving more than 10,000 patients which has demonstrated that it is more than 90% effective in a wide range of upper respiratory and other infections including:

tonsillitis	adenoiditis	rhinitis
pneumonia	pharyngitis	mastoiditis
bronchitis		otitis media

Wide Spectrum: Madribon has proven effective clinically when the following microorganisms are involved:

Str. hemolyticus	*Pneumococcus*	*Ps. aeruginosa*
Staph. aureus	*K. pneumoniae*	*Salmonella*
Staph. albus	*E. coli*	*P. vulgaris*
Meningococcus		*P. mirabilis*

Safety: "Continued medication for as long as a month was unaccompanied by any undesirable reactions."[1] The incidence of side effects to date—nausea, vomiting and headache—was found to be less than 2 per cent. And as a rule, when side effects did occur, they were reassuringly mild.

now in traditional *qid* dosage form

introducing

Madriqid™

now available for your convenience whenever *q.i.d.* is desirable

℞SVP

The Growing Madribon Literature

Introduced in November, 1958, Madribon has already accumulated an impressive series of reports:

1. J. D. Young, Jr., W. S. Kiser and O. C. Beyer, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **2.** H. P. Ironson and C. Patel, *Antibiotic Med. & Clin. Therapy* 6: (Suppl.), 1959 (in press). **3.** T. D. Michael, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **4.** W. A. Leff, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **5.** B. A. Koechlin, W. Kern and R. Engelberg, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **6.** R. J. Schnitzer and W. F. DeLorenzo, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **7.** R. J. Schnitzer, W. F. DeLorenzo, E. Grunberg and R. Russomanno, *Proc. Soc. Exper. Biol. & Med.* 99:421, 1958. **8.** B. H. Leming, Jr., Clyde Flanigan, Jr. and B. R. Jennings, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **9.** J. C. Elia, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **10.** W. F. DeLorenzo and R. Russomanno, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **11.** J. F. Glenn, J. R. Johnson and J. H. Semans, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **12.** B. Fust and E. Boehni, *Antibiotic Med. & Clin. Therapy* 6: (Suppl.), 1959 (in press). **13.** W. F. DeLorenzo and A. M. Schumacher, *Antibiotic Med. & Clin. Therapy*, 6: (Suppl.), 1959 (in press). **14.** S. Ross, J. R. Puig and E. A. Zaremba, *Antibiotics Annual* 1958-59 (in press). **15.** E. H. Townsend and A. Borgstedt, *Antibiotics Annual* 1958-59 (in press). **16.** W. P. Boger, *Antibiotics Annual* 1958-59 (in press). **17.** O. Brandman, C. Oyer, R. Engelberg and L. O. Randall, *J. M. Soc. New Jersey* (in press).

Dosage: MADRIBON, MADRIQID – Consult literature available on request.

Caution: The usual precautions in sulfonamide therapy should be observed, including maintenance of adequate fluid intake. If toxic reactions or blood dyscrasias occur, use of the drug should be discontinued. As is true of all sulfonamides, Madribon is probably contraindicated in premature infants.

ROCHE LABORATORIES · *Division of Hoffmann-La Roche Inc* · Nutley 10 · N. J.

for depression

▲Deprol▲†

Clinically confirmed in over 2,500 documented case histories[1,2]

CONFIRMED EFFICACY

Deprol ► acts promptly to control depression *without* stimulation
► restores natural sleep
► reduces depressive rumination and crying

DOCUMENTED SAFETY

Deprol is unlike amine-oxidase inhibitors

► does not adversely affect blood pressure or sexual function
► causes no excessive elation
► produces no liver toxicity
► does not interfere with other drug therapies

Deprol is unlike central nervous stimulants

► does not cause insomnia
► produces no amphetamine-like jitteriness
► does not depress appetite
► has no depression-producing aftereffects
► can be used freely in hypertension and in unstable personalities

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: Each tablet contains 400 mg. meprobamate and 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl).

Supplied: Bottles of 50 scored tablets.

1. Alexander, L.: Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. 2. Current personal communications; in the files of Wallace Laboratories.

†Trade mark

Literature and samples on request WALLACE LABORATORIES, *New Brunswick, N. J.*



AFTER HOURS

Photographs with brief description of your hobby will be welcomed. A beautiful imported German apothecary jar will be sent to each contributor.

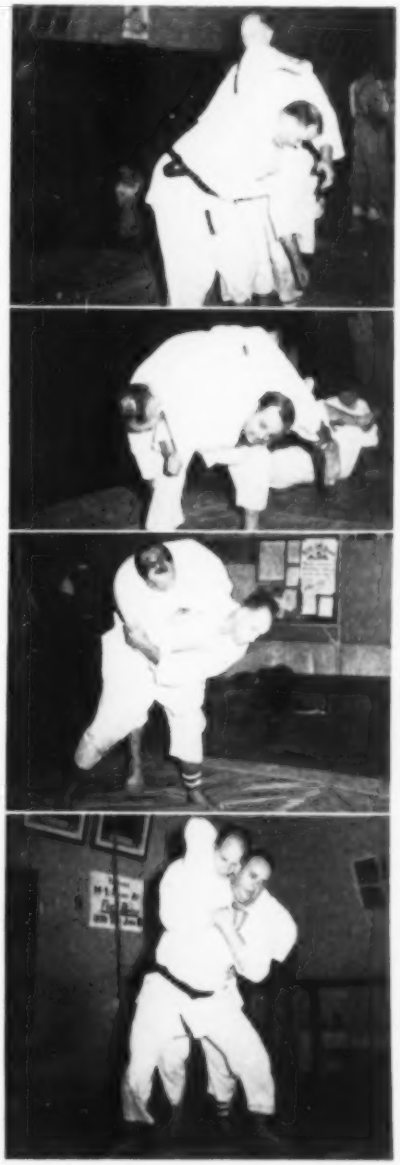
JUDO

My hobby is Judo! I started at the old age of 34. It was a tough grind but by perseverence and continued working out three times a week, I progressed through the ranks until I obtained my black belt two years later.

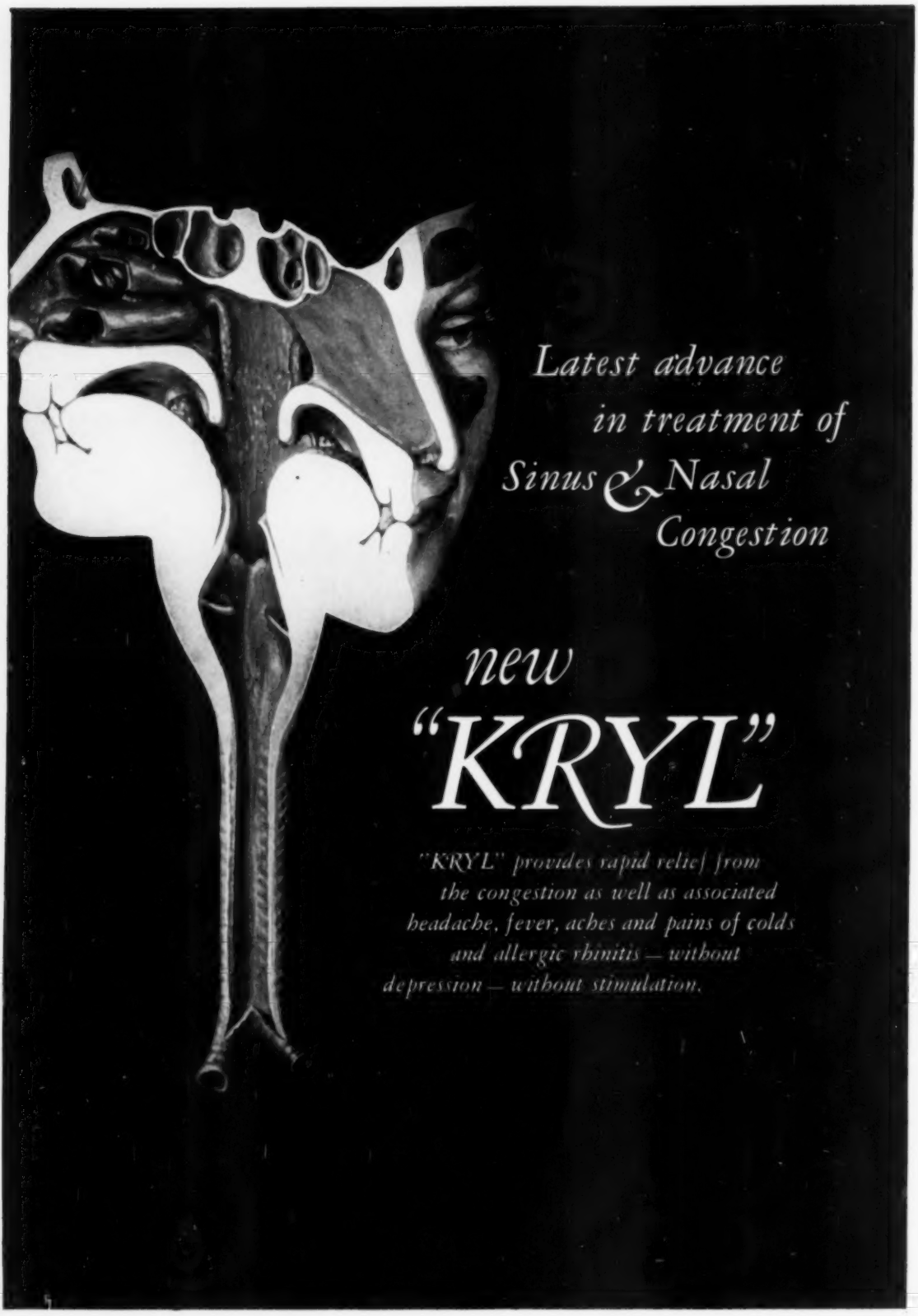
After obtaining my black belt, I devoted my knowledge and skill to giving demonstrations for entertainment purposes rather than continue the competitive field against young college students from schools with police courses. Wisdom and skill was to my advantage, but age and "wind" was to my disadvantage.

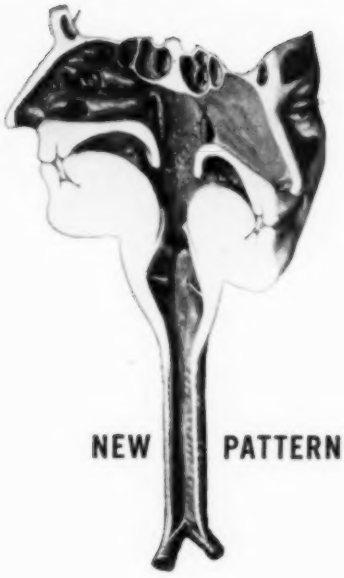
In our demonstrations we run through Yawara (Hand Arts), Nages (Body Throws), Knife Arts, and Club Arts. We are a team of four members including myself. The one question asked of me, "Have I found Judo of advantage in self defense?" The answer is that I have little worries about having to defend myself from a fight because I stand 6′ 2″ and weigh 240 pounds and am now 40 years of age.

RAFAEL G. DUFFICY, JR., M.D.
San Rafael, California



It's all in knowing how, as Dr. Dufficy demonstrates in this series of photos. The doctor has the upper hand in all but one (second from bottom) of these rather ticklish situations.


Latest advance
in treatment of
Sinus & Nasal
Congestion
new
"KRYL"
"KRYL" provides rapid relief from
the congestion as well as associated
headache, fever, aches and pains of colds
and allergic rhinitis — without
depression — without stimulation.



NEW PATTERN IN SINUS AND NASAL DECONGESTION

ANTIHISTAMINE ACTION
WITHOUT SEDATION

SYSTEMIC DECONGESTION
WITHOUT SIDE EFFECTS

ANALGESIC-ANTIPYRETIC ACTION
WITHOUT DRUG STIMULATION

ANTI-STRESS VITAMIN TO
MAINTAIN TISSUE INTEGRITY

"THERUHISTIN" — Newest type of antihistamine for control of excessive nasal secretion and congestion — highly potent (92 per cent effective)[1] yet unusually free from side effects — *less than one per cent incidence of drowsiness.*[1-3]

l-Phenylephrine — Unusually long-acting *oral* vasoconstrictor[4] relieves nasal blockage, promotes better drainage — without local pathologic changes reported with topical agents. Relieves bronchial spasm.

Aspirin and Phenacetin — Analgesic-antipyretic synergists, to relieve fever, aches and pains. Freedom from antihistamine drowsiness obviates need for drug stimulants.

Ascorbic Acid — High levels of vitamin C aid in preventing nasal edema due to impaired vascular and mucous membrane integrity,[5] and replenish adrenal ascorbic acid reserves.[6]

new

"KRYL"

for symptomatic relief of colds, hay fever, and sinus congestion

Each tablet contains:

Isothipendyl HCl ("Theruhistin")	4 mg.
Aspirin	230 mg.
Phenacetin	160 mg.
l-Phenylephrine HCl	5 mg.
Ascorbic Acid	100 mg.

DOSAGE: Adults, 2 tablets initially. Thereafter, and until symptoms disappear, 1 tablet every four hours. Children (6 to 12), half the adult dose.

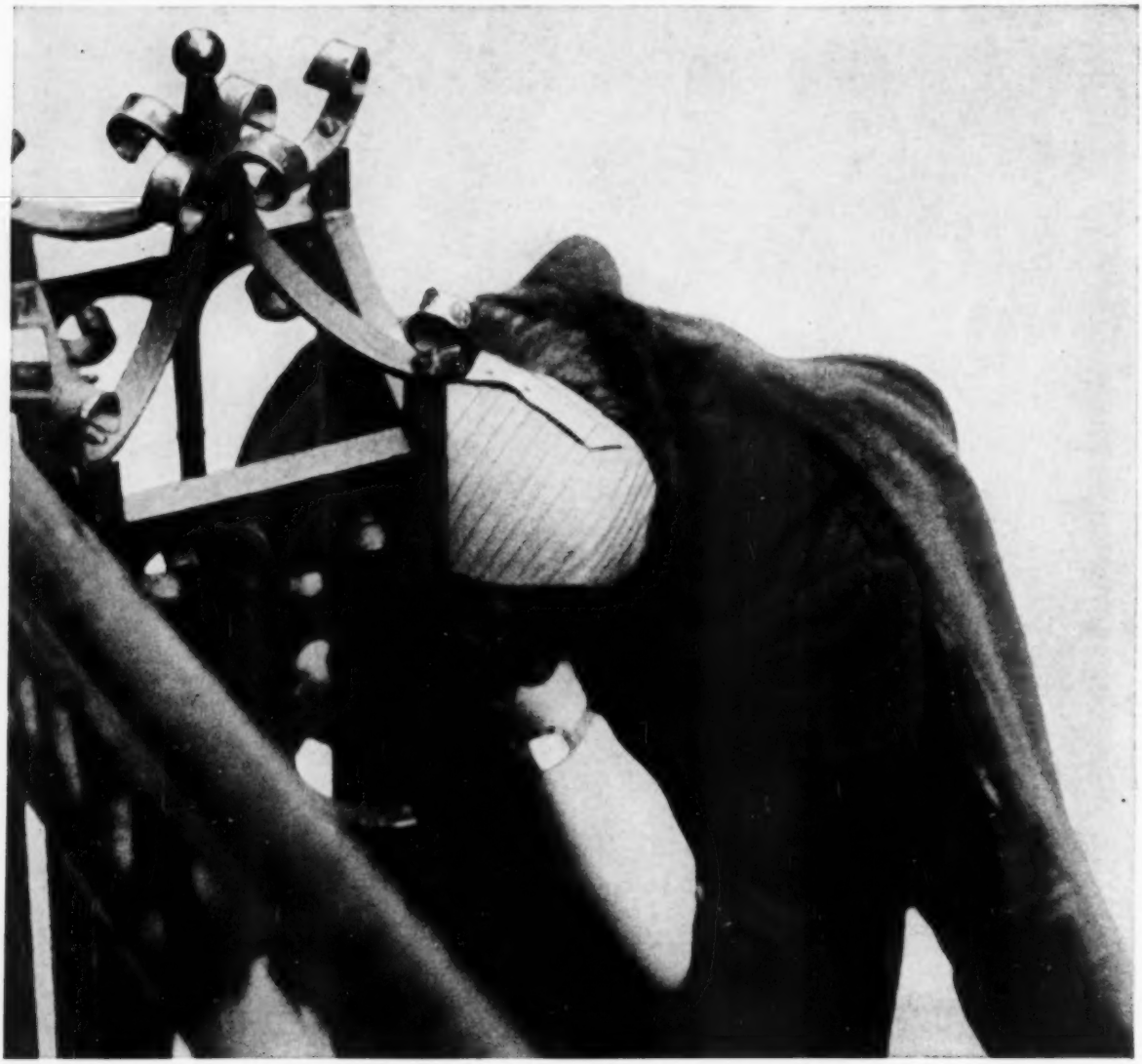
SUPPLIED: Bottles of 100 and 1,000 tablets.

REFERENCES: 1. New and Unused Therapeutics Committee, Am. Coll. Allergists: Ann. Allergy 16:237 (May-June) 1958. 2. Spielman, A. D.: Ann. Allergy 16:242 (May-June) 1958. 3. Spielman, A. D.: New York J. Med. 57:3529 (Oct. 15) 1957. 4. Hunnicutt, L. G.: Bull. Vancouver M. A. 28:348 (July) 1952. 5. Hunnicutt, L. G.: Bull. Vancouver M. A. 28:352 (July) 1952. 6. Pirani, C. L.: Metabolism 1:197 (May) 1952.

Ayerst Laboratories, New York 16, N. Y. • Montreal, Canada

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WHEN BLOOD PRESSURE MUST COME DOWN...



When hypertensive symptoms such as dizziness, headache and fainting are frequent enough and severe enough to interfere with your patient's activity and safety—then it is time to consider the beneficial actions of Serpasil-Apresoline. Both Serpasil and Apresoline lower blood pressure. When the Serpasil-Apresoline combination tablet is prescribed, blood pressure response is even better. In addition, Serpasil contributes favorable calming and heart-slowing effects. Apresoline increases renal blood flow, decreases cerebral vascular resistance and inhibits the actions of humoral pressor agents. Combined with Serpasil, Apresoline is effective at a lower dosage, thus side effects are rarely a serious problem.

SUPPLIED: *Tablets #2* (standard-strength), each containing 0.2 mg. of Serpasil and 50 mg. of Apresoline. *Tablets #1* (half-strength), each containing 0.1 mg. of Serpasil and 25 mg. of Apresoline. *Samples available on request.*

Serpasil®-Apresoline®
hydrochloride
(reserpine and hydralazine hydrochloride CIBA)

2/2040 MR

CIBA SUMMIT, NEW JERSEY



catheters are contagious

all things considered . . .

"The catheter is probably the most common agent responsible for resistant urinary tract infections."[1]

. . . there's a point to prophylaxis

"All instrumented patients, male or female, deserve prophylactic drugs to prevent iatrogenic urinary tract infections."[2]

to meet the danger / to treat the patient

Furadantin®

brand of nitrofurantoin

"We have given FURADANTIN for as long as three months to patients with indwelling catheters without deleterious effects."[3]

FURADANTIN Tablets, 50 and 100 mg.; Oral Suspension, 25 mg. per 5 cc. tsp.

REFERENCES: 1. Lich, R., Jr.: J. Arkansas M. Soc. 52:271, 1956. 2. Baker, W. J.: J. Urol., Balt. 80:85, 1958. 3. Carroll, G., et al.: J. Am. Geriat. Soc. 5:635, 1957.

NITROFURANS—a *unique* class of antimicrobials—neither antibiotics nor sulfonamides

EATON LABORATORIES, NORWICH, NEW YORK

NOW—YOU CAN GET THE
UNSURPASSED ADVANTAGES
OF ARISTOCORT
IN SALICYLATE
COMBINATION

Arist

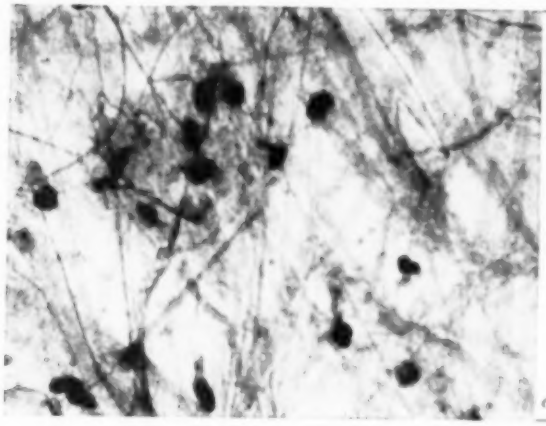
Aristogesic combines the *anti-inflammatory* effects of Aristocort® Triamcinolone with the *analgesic* action of a most potent salicylate. This means that the dosage of each is *substantially lower* than that ordinarily required for each agent alone. With Aristogesic the physician has exceptionally wide latitude in adjusting the dosage to the lowest effective level.

The possibility of gastric distress from either salicylamide or corticosteroid is minimized because of lower dosage required. This is further reduced by the buffer action of aluminum hydroxide. And the ascorbic acid helps meet the increased need for this vitamin in stress conditions. Because of the low dosage, side effects with Aristogesic have been relatively infrequent and minor in nature. However, more serious side effects have traditionally been observed on all corticosteroid therapy. Patients on long-term Aristogesic therapy should, therefore, be observed carefully.

ogesic*

Steroid–Analgesic Compound LEDERLE

for relief of *chronic*–but *less severe* pain of rheumatic origin



Collagen tissue (x250)

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Each Aristogesic Capsule contains:
ARISTOCORT® Triamcinolone . . . . . 0.5 mg.
Salicylamide . . . . . 325 mg.
Aluminum Hydroxide . . 75 mg.
Ascorbic Acid . . . . . 20 mg.

Supply: Bottles of 100.

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

DIURIL® GIVES GREATER EFFECTIVENESS TO ANY PROGRAM FOR HYPERTENSION

CHLOROTHIAZIDE





MERCK SHARP & DOHME
Division of Merck & Co., Inc. • Philadelphia 1, Pa.

RATIONALE

"It appears that there is now available in chlorothiazide a drug which is a specific antagonist to the abnormal sodium metabolism seen in the vast majority of hypertensive patients. The use of this agent [DIURIL] may stand the test of time as the most vital and specific weapon in the treatment of a relatively non-specific disease in which the only specific abnormality known is one of sodium metabolism. . . . Chlorothiazide now appears to be the drug of choice when initiating therapy in the average hypertensive patient."

Reinhardt, D. J.:
Delaware State Med. J. **30**:1, January 1958.

RESULTS

"We have presented a group of 48 patients previously treated with a variety of antihypertensive agents." "Upon the addition of chlorothiazide to their regimens, there was realized an additional blood pressure lowering effect of 23 mm. systolic and 11 mm. diastolic."

Bunn, W. H., Jr.:
Ohio State Med. J. **54**:1168, September 1958.

MINIMAL SIDE EFFECTS

"There is an extremely wide range between therapeutic and toxic dosage, and no significant side effects and no sensitivity to the drug as yet have been observed."

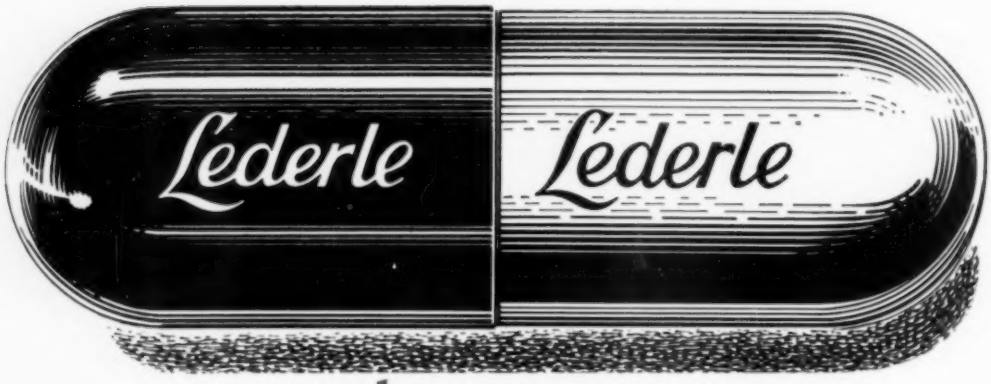
Herrmann, G. R., Hejtmancik, M. R., Graham, R. N. and Marburger, R. C.:
Texas State J. Med. **54**:639, September 1958.

dosage: one 250 mg. tablet DIURIL b.i.d. to one 500 mg. tablet DIURIL t.i.d.

supplied: 250 mg. and 500 mg. scored tablets DIURIL (Chlorothiazide) bottles of 100 and 1000.

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in
this capsule
lives the
most widely
used

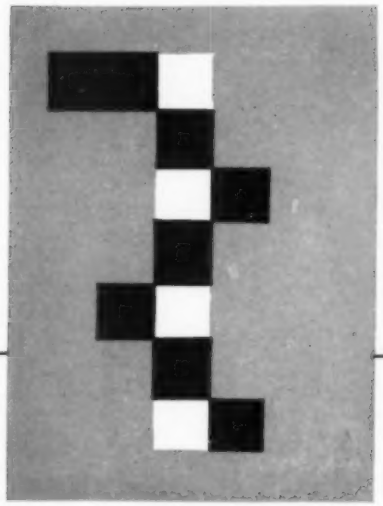


the most
widely useful
antibiotic
in the
world
Achromycin® V

Tetracycline with Citric Acid Lederle

SUPPLIED IN CAPSULES OF 250 MG.
WITH 250 MG. CITRIC ACID,
AND 100 MG. WITH 100 MG. CITRIC ACID.

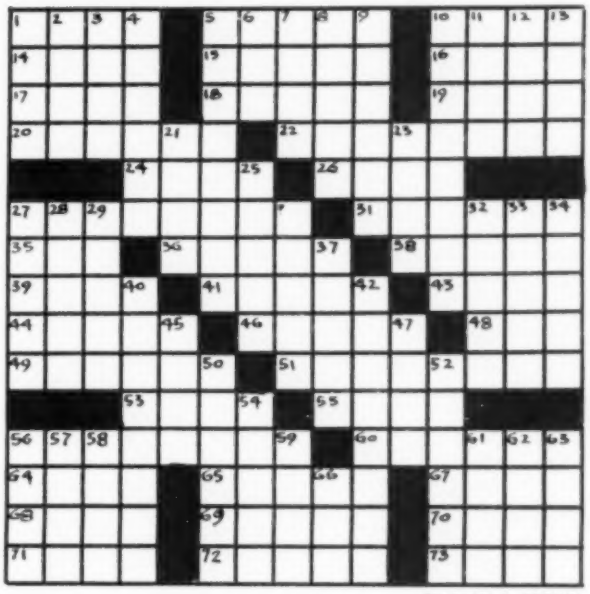
Lederle LEDERLE LABORATORIES, A DIVISION OF AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK



Medical Teasers

A challenging crossword puzzle for the physician

(Solution on page 250a)



BY ALAN A. BROWN

ACROSS

1. Cohesive mixture
5. Threadlike
10. Gaunt
14. Nervous malady, marked by murderous frenzy
15. Not smooth
16. City in Nevada
17. Calcium oxide
18. Looplike structure (pl.)
19. Second cervical vertebra
20. Acid used for treating pyocyanosis
22. Amputate
24. Animal enclosure
26. Foul matter
27. For bathing (pl.)
31. Starch soluble in water
35. Chemical suffix indicating quinquivalent nitrogen
36. Odor
38. Carried
39. A number
41. Clyster
43. Neon, oxygen, phosphorus (symbols)
44. Choice
46. Chemical suffix indicating bivalent hydrocarbon radical
48. American Medical Association
49. Seek
51. Pertaining to amnesia
53. Toward the mouth
55. A branch, as of a nerve (pl.)
56. Artificial teeth
60. Thickening of the skin
64. Oil (comb. form)
65. Around (prefix)
67. Platinum loop
68. Soothing medicine
69. Begot
70. Tubular passage
71. Solely
72. Inflammation of the eyelid (pl.)
73. Prescribed portion of a medicine

DOWN

1. Cheek bone
2. Derived from ammonia
3. Indefinite quantity
4. Preliminary drawing
5. Break in a bone
6. Electrified particle
7. Sensuous desire
8. Solidifying agent in culture mediums (pl.)
9. Any catarrhal discharge
10. Act of pulling
11. Six (prefix)
12. Initial (abbr.)
13. Organ of smell
21. Very small quantity
23. Insensible
25. Black wood
27. Osseous framework
28. Like an old woman
29. Tapeworm
30. Perceive by scent
32. Gloomy
33. Fibrous tumor
34. Himalayan city
37. Mohammedan prince
40. Pelvic section
42. Substances that counteract acidity
45. Pale brown
47. Electron, hydrogen, masurium (symbols)
50. Annoy
52. Having a coiled appearance
54. Abdicate
56. Deuterium, oxygen, bohemium (symbols)
57. Ardor
58. Girl's name
59. Nimble
61. Mother of Apollo
62. Employs
63. Withered
66. Helium, electron (symbols)

there are more than 60,000,000 people over 40 in the U.S.A.[1]



and in this age group constipation is a common problem.[2]

3-way action
physiologic
CHOLERETIC
DIGESTANT
LAXATIVE
for treating the causes and symptoms of constipation

CAROID AND BILE SALTS TABLETS act to restore the normal pattern of elimination. Bile salts help overcome biliary stasis so common in the over-40 age group; Caroid, a potent enzyme, increases protein digestion as much as 15%; and mild laxatives improve peristaltic rhythm and tone – keep stools soft and well formed.

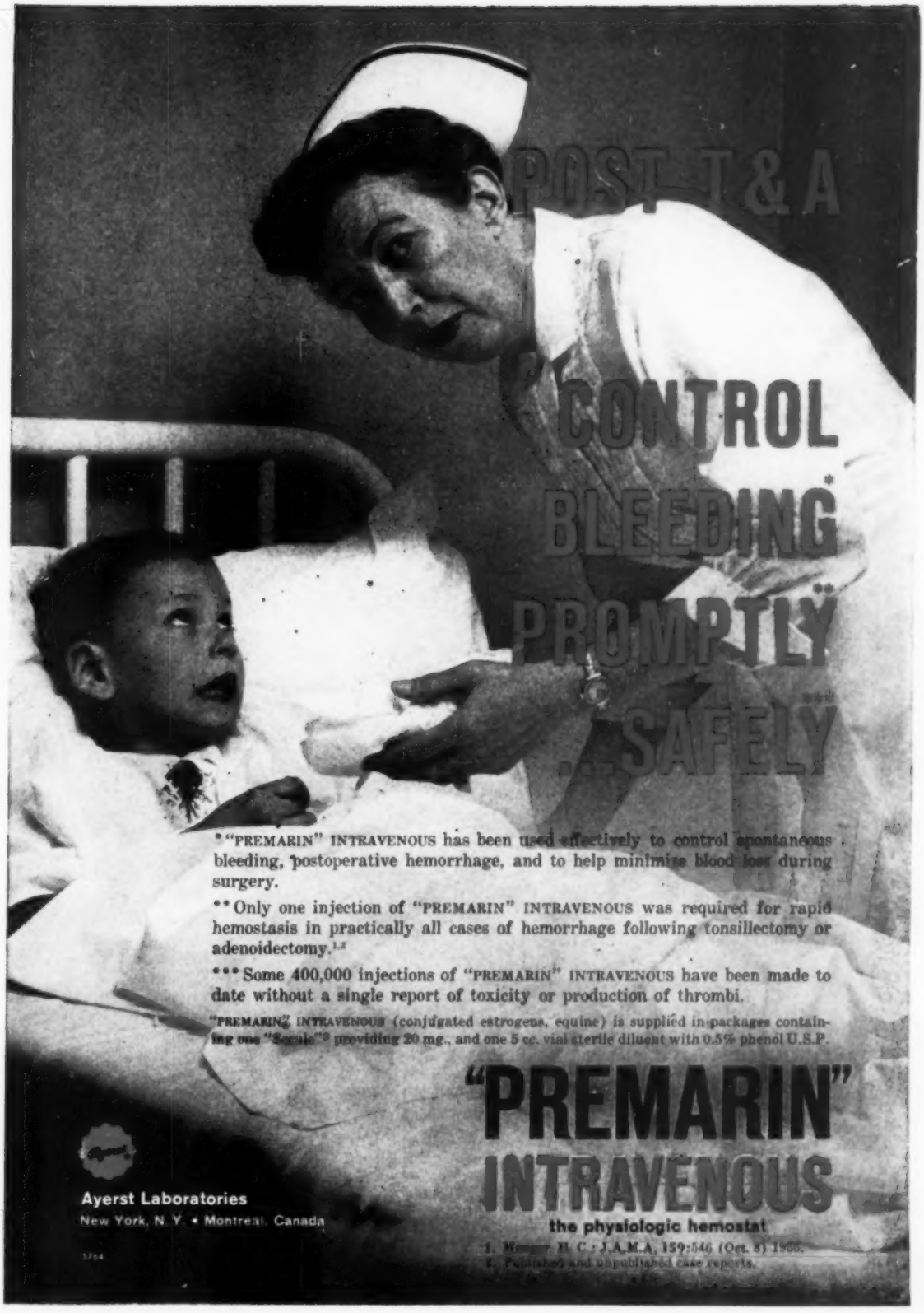
1. Statistical Abstract of the United States, ed. 78, U.S. Department of Commerce, Bureau of the Census, 1957, p. 6. • 2. Rehfuss, M. E.: Indigestion, Its Diagnosis and Management, Philadelphia, W. B. Saunders Company, 1943, p. 322.

Caroid® and Bile Salts Tablets

RESTORE REGULARITY WITHOUT IRRITATION, GRIPING OR FLATULENCE

SAMPLES ON REQUEST

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*"PREMARIN" INTRAVENOUS has been used effectively to control spontaneous bleeding, postoperative hemorrhage, and to help minimize blood loss during surgery.

**Only one injection of "PREMARIN" INTRAVENOUS was required for rapid hemostasis in practically all cases of hemorrhage following tonsillectomy or adenoidectomy.[1,2]

***Some 400,000 injections of "PREMARIN" INTRAVENOUS have been made to date without a single report of toxicity or production of thrombi.

"PREMARIN" INTRAVENOUS (conjugated estrogens, equine) is supplied in packages containing one "Serule"® providing 20 mg., and one 5 cc. vial sterile diluent with 0.5% phenol U.S.P.

"PREMARIN" INTRAVENOUS

the physiologic hemostat

1. Meagher, W. C.: J.A.M.A. 159:546 (Oct. 8) 1955.
2. Published and unpublished case reports.

Ayerst Laboratories
New York, N. Y. • Montreal, Canada

5764

explodes trichomonads

VAGISEC®

LIQUID AND JELLY

93.1% "cure" rate using strictest criterion—negative cultures for 3 consecutive months

Active ingredients in VAGISEC liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Alcohol 5% by weight.

1. Giorlando, S. W., and Brandt, M. L.: Am. J. Obst. & Gynec. 76: 666 (Sept.) 1958. 2. Weiner, H. H.: Clin. Med. 5: 25 (Jan.) 1958.

VAGISEC and RAMSES are registered trade-marks of Julius Schmid, Inc.

Repeated negative cultures, following treatment with VAGISEC liquid and jelly, confirmed "cures" in 93.1% of trichomoniasis patients (54 of 58) treated by Giorlando and Brandt.[1] These patients were followed up, using cultures, for a minimum of three months, many for as long as eight months. *All* remained negative. Using the same strict criterion of negative cultures, Weiner achieved comparable success[2]—46 of 51 patients freed of trichomonads.

VAGISEC therapy is consistently characterized by immediate relief of painful symptoms—few recurrences.

To help rule out conjugal re-infection—Husbands willingly cooperate as a part of the wife's treatment when RAMSES,* the pure gum rubber prophylactics with "built-in" sensitivity, are suggested for use routinely.

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423 West 55th Street, New York 19, N. Y.

"old age must be resisted and its deficiencies supplied"

—CICERO



to help your patients resist old age prescribe

ELDEC®

vitamin-mineral-hormone supplement

KAPSEALS®

during the middle years

each **KAPSEAL** *contains:*

vitamins	
Vitamin A	1,667 Units (0.5 mg.)
Vitamin B_1 mononitrate	0.67 mg.
Ascorbic acid	33.3 mg.
Nicotinamide	16.7 mg.
Vitamin B_2	0.67 mg.
Vitamin B_6	0.5 mg.
Vitamin B_{12} with intrinsic factor concentrate	0.033 USP Unit (oral)
Folic acid	0.1 mg.
Choline bitartrate	6.67 mg.
Pantothenic acid (as the sodium salt)	5 mg.
minerals	
Ferrous sulfate (exsiccated)	16.7 mg.
Iodine (as potassium iodide)	0.05 mg.
Calcium carbonate	66.7 mg.
digestive enzymes	
Taka-Diastase®	20 mg.
Pancreatin	133.3 mg.
protein improvement factors	
l-Lysine monohydrochloride	66.7 mg.
dl-Methionine	16.7 mg.
gonadal hormones	
Methyl testosterone	1.67 mg.
Theelin	0.167 mg.

dosage: One Kapseal three times daily before meals. Female patients should follow each 21-day course with a 7-day rest interval.

packaging: ELDEC Kapseals are available in bottles of 100.

MEDICAMENTA VERA

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

ELDEC BEGINS AT 40

60759



these physical scars need never have developed

Surgical techniques can now almost completely remove this man's severe acne scars.

But if he, and thousands like him, had sought early treatment, the scars might never have developed. A physician's advice and guidance concerning his condition, plus treatment with 'Acnomel', might have prevented his acne from progressing to the severe, scarring stage.

'Acnomel' conceals acne lesions as it heals them, thus reducing embarrassment while treatment goes on. The results from 'Acnomel' therapy are often evident in a few days rather than in weeks or months.

When you see a patient who needs advice about acne, remember 'Acnomel'. Available in 2 forms: Cream for use at home; Cake in a handy compact for use away from home.

Acnomel* sulfur • resorcinol • hexachlorophene

conceals as it heals

Smith Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.



Everything seems normal, but that "I just fall apart in the afternoon" may indicate a common subclinical anemia, or even an early pernicious anemia. For any phase or any type, marginal to manifest, consider one of the new Lederle hematinic formulations, FALVIN, PRONEMIA or PERIHEMIN. All provide the new form of iron, ferrous fumarate (fewer g.i. reactions and fully efficient) plus AUTRINIC Intrinsic Factor Concentrate, producing higher B_{12} serum levels.

Three formulas permit dosage flexibility

Each capsule contains:	FALVIN 2 DAILY	PRONEMIA 1 DAILY	PERIHEMIN 3 DAILY
Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate	1 U.S.P. Oral Unit	2 U.S.P. Oral Units	2/3 U.S.P. Oral Unit
Ferrous Fumarate	271 mg.	350 mg.	168 mg.
Iron (as Fumarate)	90 mg.	115 mg.	55 mg.
Ascorbic Acid (C)	75 mg.	150 mg.	50 mg.
Folic Acid	1 mg.	2 mg.	0.67 mg.

All three contain Autrinic

FALVIN®

Hematinic Lederle

PRONEMIA® Hematinic Lederle

PERIHEMIN® Hematinic Lederle

Lederle

LEDERLE LABORATORIES,
a Division of
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In hypoprothrombinemia

STOP BLEEDING

BEFORE IT BEGINS

IMMEDIATE ACTION: KONAKION is a potent, prompt-acting synthetic vitamin K_1 (not an analog) which duplicates the physiologic activity of the natural vitamin.

MULTIPLE CHOICE OF ROUTES OF ADMINISTRATION: oral, intramuscular, or intravenous . . . compatible with most I.V. vehicles, including isotonic saline solution, the usual dextrose solutions in distilled water or in saline, and Ringer's solution.

CONVENIENT LOW-DOSAGE FORMS: conforming to the present trend toward smaller doses in vitamin-K therapy . . . no waste, precise dosage administration.

NEW MARGIN OF SAFETY: substantially wider margin than that of the vitamin-K analogs.

Capsules—5 mg; Ampuls—1 mg/0.5 cc

KONAKION®—brand of phytonadione

NEW KONAKION

ROCHE LABORATORIES · Division of Hoffmann-La Roche Inc · Nutley 10, New Jersey



Who Is This Doctor?

Answer on page 258a

Eldest of 11 children of an English publisher, she was born in London on Aug. 31, 1842, and came to the U.S. in 1847.

She was one of the first of women doctors, her father placing no barriers before her "repulsive pursuit."

She was graduated in 1863 from the New York College of Pharmacy and in 1864 from the Female Medical College of Pennsylvania (later the Women's Medical College). Considering her medical training to be inadequate, she went to Europe in the hope of studying at the École de Medicine of the University of Paris. She was refused entrance at first to the École because of her sex and worked in hospital clinics and laboratories, attended lectures at the Jardin des Plantes and College de France and earned her way by writing for American newspapers and such journals as *Putnam's Magazine* and *Scribner's Monthly*. Her eventual acceptance was so delayed that she became the second rather than the first female graduate of the École, a practicing English physician, Dr. Elizabeth Garrett, having meantime beaten her to the honor.

She returned to New York in 1871 and became a professor on the faculty of the new Women's Medical College of the New York Infirmary, a position she held for 25 years.

Dr. William Osler said of her talent that "she stood as a bright particular star in the firmament of the profession . . . It is no disparagement to her contemporaries to say that no other woman in the profession equalled her in the ability with which she presented a subject." She was a brilliant student, writer, teacher and lecturer.

In the same year that she was elected to the Medical Society of the County of New York she married its president, himself a major figure in American medicine.

She was a leader in work in behalf of the American Indian, the Negro and women's suffrage. She died on June 10, 1906.

Can you name this doctor?



DESITIN® ACNE cream

- conceals acne lesions with a skin harmony not achieved before — no medicated or mask-like look.
- anti-seborrheic, gently keratolytic, reduces excess oiliness without irritation. Combats secondary infection.
- markedly reduces comedones and pustules, helps speed healing as shown by recent studies.[1-2]

Combines colloidal sulfur, resorcinol, zinc oxide and hexachlorophene in a flesh-tinted, quick-drying, cosmetically elegant and superior base. Pleasant to use, greaseless.

Please write for **SAMPLES** and reprints

DESITIN CHEMICAL COMPANY

812 Branch Avenue, Providence 4, R. I.

1. Bleiberg, J.: J. Med. Soc. New Jersey, Aug. 1957.

2. Weissberg, G.: Clinical Medicine, Feb. 1958.

DESITIN SOAP 

. . . ideal for cleansing teen-agers' skin.



NEW...prenatal supplements both especially for multiparas

Natalins® Comprehensive

Vitamins and minerals, Mead Johnson

tablets

12 significant vitamins and minerals

Natalins® Basic

Vitamins and minerals, Mead Johnson

tablets

4 basic vitamins and minerals

convenient one-a-day dosage

two formulations to meet individual needs of your patients

The need of the multipara for supplemental nutrition may be greater as successive pregnancies deplete her stores of nutrients. Anemia has been found to occur more frequently in multiparas than in primigravidas[1]—

Natalins Comprehensive and Basic meet this need generously—iron (40 mg. per tablet), ascorbic acid (100 mg. per tablet) and calcium (250 mg. per tablet).

[1] Traylor, J. W., and Tatum, H. Am. J. Obst. & Gynec. 81:71-76 (Jan.) 1961.

Mead Johnson

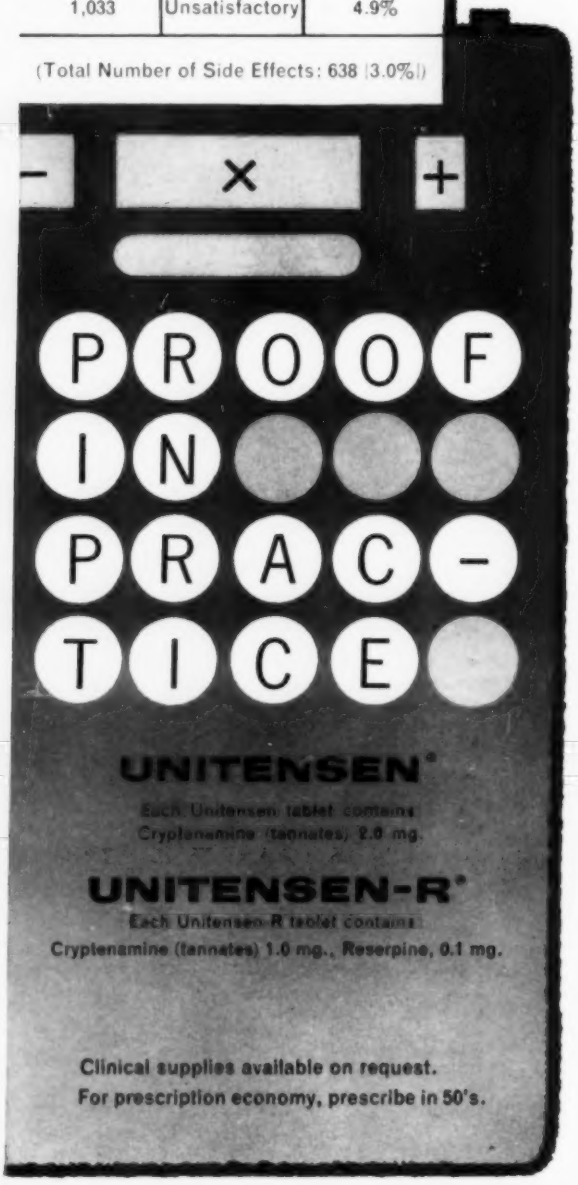
Symbol of service in medicine

MA-1559

SUMMARY OF REPORTS

No. of Patients	Results	Percent
6,553	Excellent	31.0%
10,843	Good	51.3%
2,703	Fair	12.8%
1,033	Unsatisfactory	4.9%

(Total Number of Side Effects: 638 [3.0%])



A NEW DIMENSION IN RESEARCH

This data deals with the results obtained by 1,988 physicians, treating 21,128 hypertensive patients with Unitensen. The "Proof In Practice" study validates, *in day-to-day private practice*, the findings of clinical trials conducted in hospitals and institutions. It proves that Unitensen affords safe, dependable office management for the majority of hypertensive patients. Unitensen lowers blood pressure . . . improves cerebral and renal blood flow... exerts no adverse effects on circulation . . . and, is virtually free of side effects.

Neisler

Irwin, Neisler & Co.
Decatur, Illinois

the preferred

vaginal douche

massengill® powder

Massengill Powder has a "clean" refreshing fragrance. It is favored by most patients.

Massengill Powder is buffered to *maintain* an acid condition in the vaginal mucosa. It is more effective than vinegar and simple acid douches. Its mild astringency alleviates the distress of inflamed tissues.

Massengill Powder has a low surface tension which enables it to penetrate into and cleanse the folds of the vaginal mucosa.

Indications: Massengill Powder solutions are a valuable adjunct in the management of monilia, trichomonas, staphylococcus, and streptococcus infections of the vaginal tract.

Currently, mailings will be forwarded only at your request. Write for samples and literature.



THE S. E. MASSENGILL COMPANY

BRISTOL, TENNESSEE • NEW YORK • KANSAS CITY • SAN FRANCISCO

why is

massengill® powder

the preferred vaginal douche?

The clean, refreshing fragrance of Massengill Powder is acceptable to the most fastidious for therapeutic or routine hygienic use. Solutions are easily prepared, convenient to use, non-staining. They effectively cleanse, deodorize and soothe the vaginal mucosa, while their mild astringent properties tend to decrease vaginal secretions.



Clean-Up After Antibiotics

Following intensive antibiotic therapy, many female patients complain of vulvar pruritus or vaginitis, many present the classical picture of monilia albicans infection. Regular use of Massengill Powder, with its pH of 3.5 to 4.5, helps restore the normal acidity of the vaginal tract.[1] Mildly astringent, it inhibits growth of pathogens.

Low pH Retention Massengill Powder is buffered to retain acidity. In a recent study, ambulatory patients—with an alkaline vaginal mucosa resulting from pathogens—maintained an acid vaginal mucosa of pH 3.5 for a period of 4 to 6 hours after douching with Massengill Powder; recumbent patients maintained a satisfactory acid condition up to 24 hours. Simple acid douches are quickly neutralized by an alkaline vaginal mucosa, and are unsatisfactory in maintaining the required acid pH of the vagina.[2]

Lower Surface Tension Massengill Powder in the standard solution has a surface tension of 50 dynes/cm. as compared to that of water and simple acid solutions with 72 dynes/cm. This added property enables Massengill Powder to penetrate into and cleanse the folds of the vaginal mucosa, thus increasing the therapeutic effectiveness. Lowered surface tension makes the cell wall and cytoplasmic membrane of the infecting organism more susceptible to specific therapy.[2]

SUPPLY

Massengill Powder is supplied in glass jars of the following sizes:

Small, 3 oz. Large, 16 oz.
Medium, 6 oz. Hospital Size, 5 lbs.

Pads of douching instructions for patient use available on request.

REFERENCES

1. Lang, W.R., Rakoff, A.E., Am. Geriatrics Soc. *1*:520 (1953)
2. Arnot, P.H., The Problem of Douching, Western Journal of Surg., Obs., and Gyn., Vol. 62, No. *2*:85 (1954)

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco



"Anticholinergic drugs alone are inadequate in the management of peptic ulcer. . . . They should be administered only as adjuncts to conventional treatment with antacids, diet, sedation, and other therapeutic measures."[1]

1. Kirsner, J.B., et al.: M. Clin. North America *41*:499 (March) 1957.

In peptic ulcer: six aids to total management

ALUDROX SA is not only an effective anticholinergic, but also an antacid, sedative, demulcent, anticonstipant, and pepsin-inhibitor. Thus, one convenient preparation satisfies six requirements of total peptic-ulcer therapy.

An important new anticholinergic of demonstrated usefulness, *ambutonium*, is responsible for the potent antisecretory and antimotility properties of ALUDROX SA.

NEW

SUSPENSION TABLETS

ALUDROX® SA*

Aluminum Hydroxide Gel with Magnesium Hydroxide, Ambutonium Bromide, and Butabarbital, Wyeth

*Sedative and Anticholinergic

SUPPLIED: SUSPENSION, bottles of 12 fl. oz. TABLETS, bottles of 100. Each teaspoonful (5 cc.) and tablet contains 2.5 mg. of ambutonium and 8 mg. of butabarbital combined with aluminum hydroxide and magnesium hydroxide approximating 1 teaspoonful of aluminum hydroxide gel and ¼ teaspoonful of milk of magnesia. Also available: Tablets Ambutonium Bromide, 10 mg., bottles of 100.

Wyeth

Philadelphia 1, Pa.

when oral tetracycline therapy is impractical—

AND SPEED COUNTS MOST



Sumycin Intramuscular provides rapid, sustained antimicrobial activity, when coma, shock, fulminating infection or postoperative complications hamper administration of Sumycin in the oral form. Concentrations in the blood and tissues reach peak levels for immediate control of tetracycline-sensitive organisms in a broad range of infections.

For immediate therapeutic response — Sumycin Intramuscular with Xylocaine.* Single dose vials containing tetracycline phosphate complex (equivalent to 250 mg. tetracycline HCl), and single dose vials containing tetracycline phosphate complex (equivalent to 100 mg. tetracycline HCl).

SUMYCIN

SQUIBB CRYSTALLINE TETRACYCLINE PHOSPHATE COMPLEX

INTRAMUSCULAR

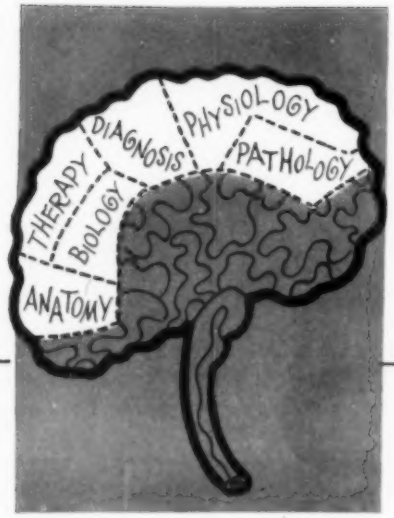
WITH XYLOCAINE*

	Flexible dosage forms	Tetracycline HCl equivalent (mg.)	Packaging
FOR ORAL THERAPY	Capsules (per capsule)	250 mg.	Bottles of 16 and 100
	Half Strength Capsules (per capsule)	125 mg.	Bottles of 16 and 100
	Syrup (per 5 cc. teaspoonful)	125 mg.	60 cc. bottle
	Aqueous Drops (per cc.)	100 mg.	10 cc. bottle with 'FLEXIDOSE' dropper

SQUIBB

Squibb Quality—the Priceless Ingredient

SUMYCIN ® AND 'FLEXIDOSE' ARE SQUIBB TRADEMARKS. *T. M. ® ASTRA PHARMACEUTICAL PRODUCTS, INC. FOR LIDOCAINE



Mediquiz

These questions were prepared especially for MEDICAL TIMES by the Professional Examination Service, a division of the American Public Health Association. Answers will be found on page 258a.

1. The usual change in the cardiac rhythm of a patient who has auricular flutter and is treated by digitalization is conversion to:

A. ventricular tachycardia;
B. normal sinus rhythm;
C. auricular fibrillation;
D. 2:1 heart block;
E. complete heart block.

2. The murmurs of aortic coarctation are:

A. always diastolic;
B. always systolic;
C. always continuous;
D. extremely variable in form, intensity and location;
E. characteristic and constant.

3. Tactile inattention may result from a discrete lesion of the:

A. posterior columns;
B. thalamus;
C. frontal lobe;
D. parietal lobe;
E. nucleus gracilis.

4. A major practical measure for preventing diabetic gangrene is to:

A. give prophylactic antibiotics to all diabetics over 50 years of age;
B. have a thorough weekly examination of all diabetics;
C. use long hot foot soaks twice daily;
D. have diabetic patients report all foot injuries and infections to their physicians;
E. check the blood sugar level weekly in all diabetics.

5. In a patient whose basal metabolic rate is usually normal and who has the complaints of dyspnea, dysphagia, dysphonia, pain, tenderness and occasionally symptoms of hyperthyroidism, the most likely diagnosis is:

A. acute thyroiditis;
B. nodular goiter;
C. Riedel's struma;
D. carcinoma of the thyroid;
E. Hürthle cell tumor.

6. Head injuries occasionally are accompanied by:

A. hypochloremia and hyperchloruria;
B. hyperchloremia and hyperchloruria;
C. Hyperchloremia and hypochloruria;
D. hyperchloremia with normal urinary chlorides;
E. hypochloremia and hypochloruria.

7. In fractures through the middle of the shaft of the humerus, which one of the following structures is most likely to be injured?

Concluded on page 83a

now–an ANTIBIOTIC TROCHE that

STOPS COUGH TOO





The *cough control* provided by homarylamine (a non-narcotic antitussive) approximates that of codeine.

Three antibiotics (bacitracin, tyrothricin, neomycin) act in combination against a wide variety of pathogens—with little danger of side reactions.

The anesthetic-analgesic effect of benzocaine brings *soothing relief* to inflamed tissues of mouth and throat.

PENTAZETS now extend the therapeutic usefulness of convenient troche medication. Each pleasant-tasting PENTAZETS troche acts promptly against the most bothersome aspects of mouth and throat irritations.

PRESCRIBE

Pentazets®

antitussive—antibiotic - anesthetic - analgesic troches

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

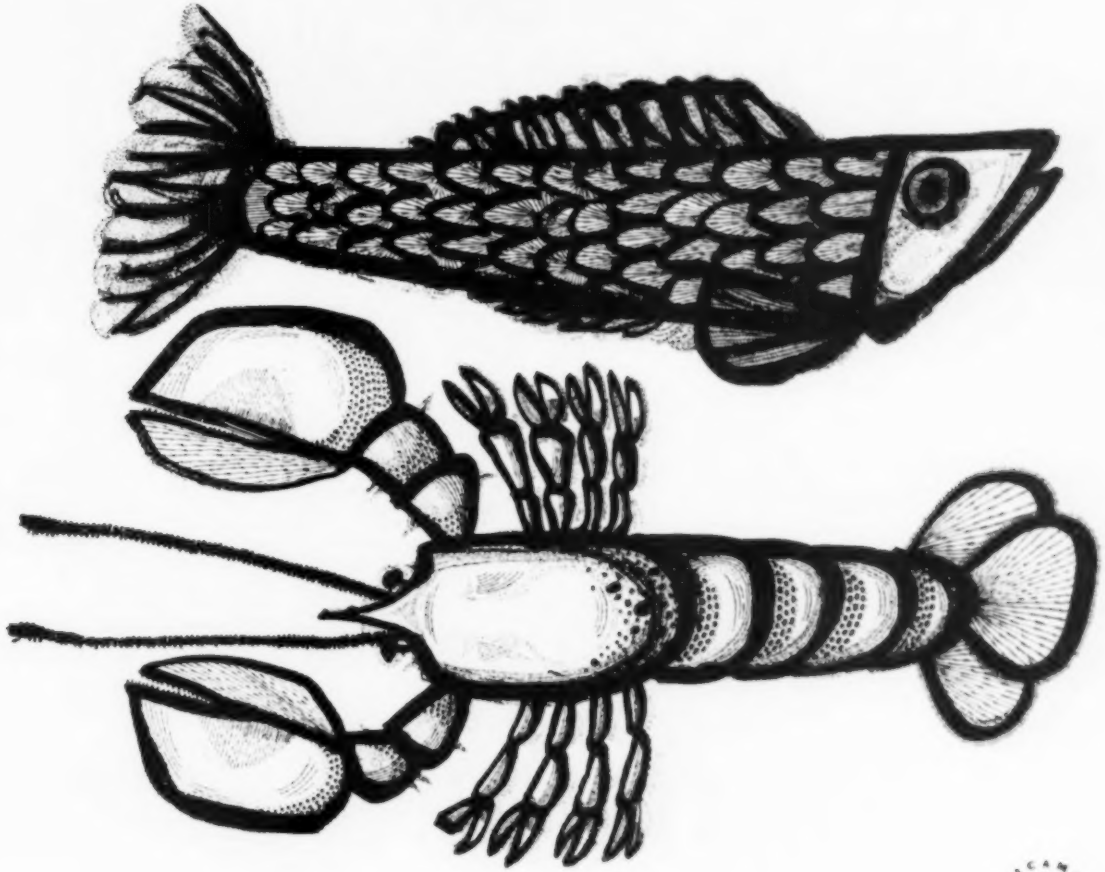
Dosage: Three to 5 troches daily for 3 to 5 days.
Supplied: In vials of 12.
PENTAZETS is a trademark of Merck & Co., Inc.

when seafood triggers an allergic attack

BENADRYL®

ANTIHISTAMINIC-ANTISPASMODIC

GIVES FAST, COMPREHENSIVE RELIEF—In food sensitivity, the antihistaminic action of BENADRYL rapidly blocks the allergic mechanism that produces gastrointestinal, cutaneous, and respiratory symptoms. At the same time, its antispasmodic effect provides relief from nausea and vomiting. Such twofold action makes BENADRYL equally useful in patients with many other allergic disorders • BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms—including Kapseals,® 50 mg. each; Kapseals, 50 mg. with ephedrine sulfate, 25 mg.; Capsules, 25 mg. each; Elixir, 10 mg. per 4 cc.; and for delayed action, Emplets,® 50 mg. each. For parenteral therapy, BENADRYL Hydrochloride Steri-Vials,® 10 mg. per cc.; and **new** Ampoules, 50 mg. per cc.



PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

your key to **ADJUSTED ANALGESIA**

	LEVO-DROMORAN				NISENTIL				PANTOPON		
	1 mg	1-1½ mg	2 mg	2-3 mg	20 mg	20-30 mg	40 mg	40-60 mg	2.5 mg	5-10 mg	10-20 mg
acute pain		IV		SC							*
biliary colic		IV		SC				SC			*
biopsies					IV		SC				
burns					IV		SC				*
cardiovascular pain								SC			*
cough control									*		
drainage					IV		SC				
dressings					IV		SC				
endoscopy						IV					
gangrene				SC/PO							*
home care of chronic pain				PO							*
intractable pain				SC/PO							*
incisions					IV		SC				
labor pain								SC (60 mg)			
major surgery preop.	IV		SC			SC	SC				
major surgery postop.			SC								
migraine				SC/PO							*
minor surgery					IV		SC				
neoplasm				SC/PO							*
neuritis				SC/PO							*
office procedure						IV					
quick analgesia								SC			
renal colic		IV		SC		IV		SC			*
recurrent pain				SC/PO							*
sedation plus analgesia										*	
trauma		IV		SC							*

long acting **LEVO-DROMORAN** onset: 5-30 minutes duration: 6-8 hours

short acting **NISENTIL** onset: 5 minutes duration: 2 hours

versatile **PANTOPON** onset: 10-30 minutes duration: 3-6 hours

*choice of ampuls, powder, hypodermic tablets, oral tablets.

Levo-Dromoran® Tartrate Roche (brand of levorphan tartrate), Nisentil® Hydrochloride Roche (brand of alphaprodine hydrochloride) and Pantopon® Roche may be habit forming. Narcotic blank required.

ROCHE—Reg. U. S. Pat. Off.

ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley 10 • N. J.







3 to make ready

That's the patient with the right form of VITERRA on his regimen! This comprehensive vitamin-mineral formula is ideal in frank nutritional deficiency states (VITERRA Therapeutic) or in daily supplementation (VITERRA Capsules, VITERRA Tastitabs® and VITERRA Pediatric).

VITERRA Therapeutic: when high potencies are indicated.

VITERRA Capsules: 10 vitamins, 11 minerals for balanced daily supplementation. Now in a soft, soluble capsule this small for added patient convenience.

VITERRA Tastitabs: VITERRA the way children like it best. Chew it, swallow it, let it melt in the mouth. Dissolve it in liquids, or add it to the formula.

Or prescribe convenient, delicious **VITERRA Pediatric** in the unique new Metered-Flow bottle.

Dosage: usually one capsule or Tastitab daily.

Supplied: CAPSULES: in 30's and 100's.
TASTITABS: bottles of 100.
VITERRA PEDIATRIC: 50 cc. bottles.

ready to recover
ready to rebuild
ready to resist

VITERRA®

ROERIG Rx

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

WHITE'S VITAMIN A & D OINTMENT

•HEALS •SOOTHES •PROTECTS



Before application of White's Vitamin A & D Ointment—Typical diaper rash with excoriation of skin.



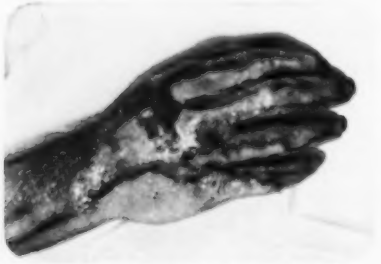
After application of White's Vitamin A & D Ointment at every diaper change—Diaper rash has completely disappeared within one week.



Before application of White's Vitamin A & D Ointment—Treatment-resistant varicose ulcer in elderly obese patient.



After daily treatment with White's Vitamin A & D Ointment—Completely healed ulcer photographed five weeks after the start of treatment with White's Vitamin A & D Ointment.



Before application of White's Vitamin A & D Ointment—Second and third degree burns caused by flaming gasoline.



After pressure gauze dressings of White's Vitamin A & D Ointment—changed at weekly intervals—Complete healing with minimal scar tissue and no contractures.

Supplied in 1½ and 4 oz. tubes; 1 lb. jars and 5 lb. containers.

WHITE LABORATORIES, INC., KENILWORTH, NEW JERSEY

Continued from page 77a

A. ulnar nerve;
B. axillary nerve;
C. median nerve;
D. musculospiral nerve;
E. brachial artery.

8. Forceful vomiting in an infant, beginning between the second and fifth week in life, associated with visible peristaltic waves, is characteristic of:
A. Hirschsprung's disease;
B. Meckel's diverticulum;
C. volvulus;
D. congenital pyloric stenosis;
E. intussusception.

9. A patient 4 months pregnant has a serious cyst of the ovary measuring about 4 inches in diameter. Among the following changes, the one which is most likely to occur is:
A. torsion;
B. infection from an adherent bowel;
C. rupture;
D. malignant change;
E. development of a similar neoplasm in the other ovary.

10. The type of neck incision that is usually made in a laryngectomy is a:
A. midline vertical incision from the cricoid to the third ring of the trachea;
B. horizontal incision 5 to 7 inches in length at the cricoid thyroid junction;
C. horizontal incision 5 to 7 inches in length at the level of the hyoid;
D. midline vertical incision from the hyoid to the suprasternal notch;
E. midline vertical incision from the hyoid to the thyroid notch.

11. A combination of unilateral pain and anesthesia in the face followed later by nerve deafness on the same side is highly suggestive of a tumor involving:
A. the geniculate ganglion;
B. Auerbach's ganglion;
C. the Gasserian ganglion;
D. the acoustic ganglion;
E. the trigeminal ganglion.

12. The most common site for tuberculous skeletal involvement in children is the:
A. clavicles;
B. humerus;
C. skull;
D. small bones of the extremities;
E. ribs.

13. Pyelograms in a patient who has a single cyst of the kidney may reveal a lesion simulating:
A. pyelonephritis;
B. carcinoma;
C. pyelitis;
D. polycystic kidney;
E. hydronephrosis.

14. Osler's nodes, small painful erythematous swellings of the skin of the hands and feet, are a sign of:
A. rheumatoid arthritis;
B. trichinosis;
C. subacute bacterial endocarditis;
D. essential hyperlipemia;
E. gout.

15. In pontine hemorrhage the pupils are often:
A. unequal, with the larger pupil on the side of the brain lesion;
B. contracted to the size of pinpoints;
C. normal;
D. dilated;
E. unequal, with the larger pupil on the opposite side from the brain lesion.

Concluded on page 89

A workhorse "mycin" for common infections



respiratory infections

prompt, high blood levels

consistently reliable and reproducible blood levels

minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

new

CYCLAMYCIN®

Triacetyloleandomycin, Wyeth

Conforms to Code for Advertising

Wyeth
Philadelphia 1, Pa.

in corticosteroid therapy of allergic diseases asthma-hay fever allergic rhinitis allergic dermatitis drug reactions



Decadron*

DEXAMETHASONE

to treat more patients more effectively

a new order of magnitude in therapeutic effectiveness

a new order of magnitude in margin of safety

Excellent and good-to-excellent results are reported† with DECADRON in nearly all of 362 patients with various allergic disorders, including a number of cases who had failed to respond to other corticosteroids. **No major reactions** were observed in these extensive clinical studies even after four months of continuous therapy—DECADRON produced no peptic ulcer, no diabetes, no significant hypertension, no sodium retention, no potassium depletion, no edema, no undesirable psychic reactions, and no unusual or new side effects. Less than five per cent of patients experienced minor reactions, none of which prevented continuing administration of DECADRON.

Moreover, several investigators report that side effects induced by previous corticosteroid therapy such as gastric intolerance, peripheral edema, headache, vertigo, muscle weakness, ecchymoses, flushing, sweating, moon facies, hypertension, hirsutism, and acne **often disappeared during therapy with DECADRON.** †Analysis of clinical reports.

Dosage: One 0.75 mg. tablet of DECADRON will replace one 4 mg. tablet of methylprednisolone or triamcinolone, one 5 mg. tablet of prednisone or prednisolone, one 20 mg. tablet of hydrocortisone, or one 25 mg. tablet of cortisone.

Detailed information on dosage and precautions is available to physicians on request.

Supplied: As 0.75 and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100.

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MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

Physicians turn to Tessalon® to control cough

Single agent with multiple actions broadens cough therapy

A single therapeutic agent developed by CIBA research now does all that has been attempted with combination cough remedies. Extensive clinical trials, in this country and abroad, involving more than 3,000 patients with acute or chronic cough, show that TESSALON *has at least six advantages* that result in the better total management of the patient with cough:

1. TESSALON acts peripherally, to control cough where cough begins—in the chest.
2. TESSALON acts centrally, to control cough at the level of the "cough center" in vagal nuclei in the medulla.
3. TESSALON thins sputum.[1]
4. TESSALON increases vital capacity and ventilation.
5. TESSALON improves exercise tolerance.
6. TESSALON relieves dyspnea, wheezing, "blackouts."

Fewer coughs per minute

Shane and co-workers,[2] using the method of Bickerman and Barach,[3] induced measurable cough in 20 volunteers; a 15 per cent citric acid aerosol was used as the cough-producing agent and each volunteer was tested on three different occasions. The antitussive efficacy of TESSALON (100 mg.) was estimated to be 2½ times that of codeine (½ grain) in this test.

Cough suppressing activity of TESSALON[2]

	Average number of coughs*
No therapy	8.3
Codeine	4.4
TESSALON	1.7

*Based on 5-minute interval immediately following inhalation of citric acid to induce cough. Each patient underwent this test on three separate occasions.

Controls cough in the chest

It has been shown that the increased sensitivity of the sensory receptors in the lung during inspiration is an important part of the cough mechanism. TESSALON has a selective inhibiting effect on these dilation or "stretch" receptors[4] that helps to control cough where cough begins—at points of irritation in the chest.

Controls cough at the cough center in the medulla

Spinal reflex arcs were studied for the inhibitory effect of TESSALON on the transfer of afferent cough impulses to the efferent branch of the cough reflex.[5] TESSALON inhibited reflex transmission, when the afferent nerve was stimulated electrically. With this "damping" effect on the cough center in the medulla, TESSALON controls cough centrally, as well as peripherally.

Thins sputum

TESSALON controls cough frequency without interfering with productivity or expectoration. In fact, sputum is usually thinner, easier to raise.[1]

Effect of TESSALON on sputum[1]

Amount		Consistency	
Less	32 patients	Heavier	3 patients
More	2* patients	Lighter	27 patients
Same	16 patients	Same	20 patients

*These patients noted more but lighter sputum.

Increases vital capacity

Respiration usually increases both in depth and volume during TESSALON treatment.[6] In one study,[7] patients with chronic respiratory disease, with and without bronchospasm, showed a mean increase of 19.7 per cent in vital capacity after a 2-week course of TESSALON.

Improves exercise tolerance

By inhibiting stretch receptor activity, and by increasing air intake, TESSALON enables patients to tolerate exercise or work better, eliminates many paroxysms of coughing.

Relieves dyspnea

Farber and Wilson[8] note that one of the important contributions of TESSALON to cough therapy is "... its action as a reliever of dyspnea in some patients." Shortness of breath, wheezing, "blackouts" are not likely to trouble the patient treated with TESSALON.

Fast, prolonged action

The cough suppressant effect of TESSALON starts rapidly—usually within 15 to 20 minutes. The duration of the antitussive effect is prolonged—usually from 3 to 8 hours.

Indications

TESSALON is indicated in acute and chronic cough.

ACUTE: Common cold • Bronchitis • Pneumonia • Upper respiratory infection • Pleurisy • Spontaneous pneumothorax • Bronchial irritation provoked by gases and foreign bodies

CHRONIC: Pulmonary emphysema • Bronchitis (emphysematous, asthmatic) • Bronchial asthma • Tuberculosis • Other chronic pulmonary diseases • Pulmonary or mediastinal tumors

PROCEDURES: Bronchoscopy and bronchography • Thoracentesis • Thoracic surgery

Dosage

ADULTS: Average dosage is one Perle (100 mg.) t.i.d. If necessary, or where cough is refractory, up to 6 Perles (600 mg.) daily may be given.

CHILDREN UNDER 10: One Pediatric Perle (50 mg.) t.i.d. is the usual dosage.

The Perles should be swallowed without chewing, and, if necessary, with a liquid. Release of TESSALON from the Perle in the mouth produces a temporary local anesthesia of the oral mucosa.

Side Effects

TESSALON is well tolerated. Only occasionally have side effects been reported. Skin rash, nasal congestion and a vague "chilly" sensation have been mentioned. In rare instances, gastrointestinal upset, constipation or sedation have been observed. No adverse effects on respiration, kidney or liver function tests, blood count or urinalysis were reported.

Supplied

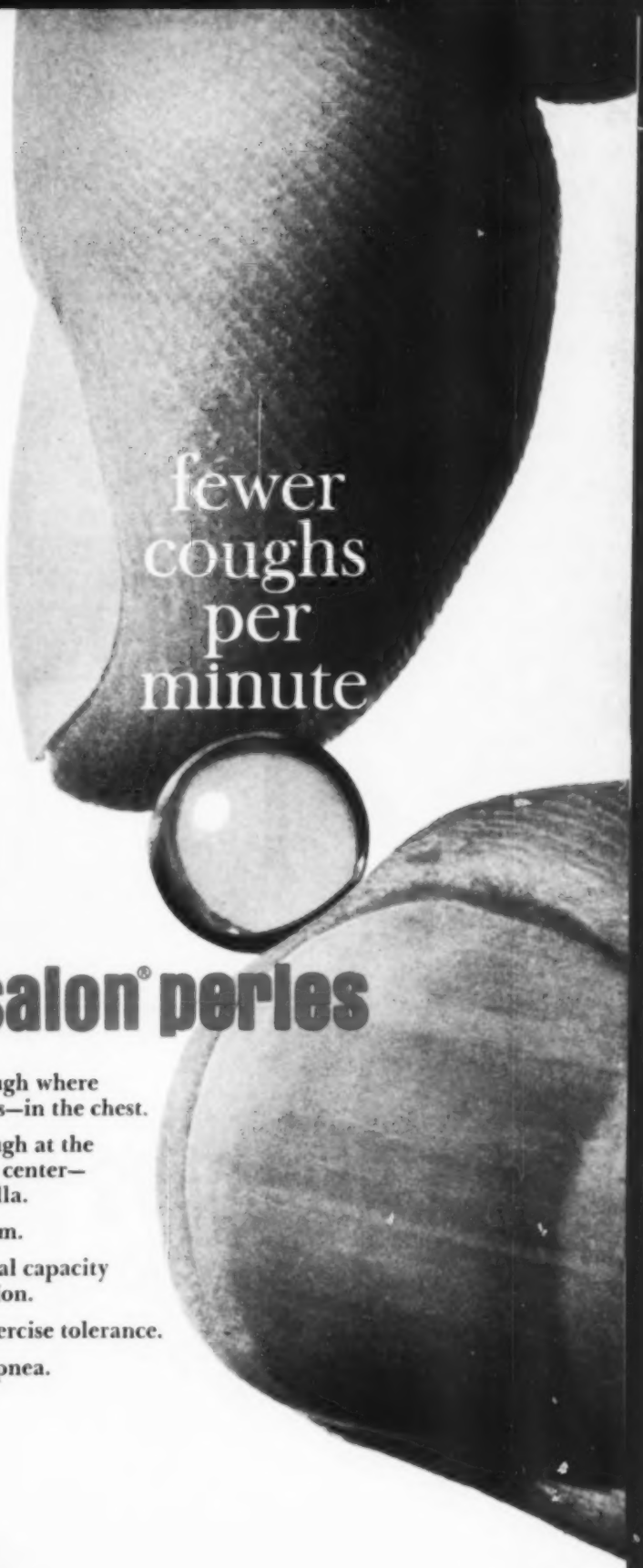
Perle form (liquid-filled gelatin spheres) provides speed of liquid medication — convenience and dosage accuracy of capsule medication. Available in two strengths: 100-mg. Perles (yellow), for adult use; 50-mg. Perles (red), for children under 10.

Samples available on request.

References

1. Simon, S. W.: Ann. Allergy 15:521 (Sept.-Oct.) 1957. 2. Shane, S. J., Krzyski, T. K., and Copp, S. E.: Canad. M.A.J. 77:660 (Sept. 15) 1957. 3. Bickerman, H. A., and Barach, A. L.: Am. J. M. Sc. 228:156 (Aug.) 1954. 4. Bein, H. J., and Bucher, K.: Helvet physiol. et pharmacol. acta 15:55 (March) 1957. 5. Meier, R., and Bein, H. J.: Personal communication. 6. Michelson, A. L., and Schiller, I. W.: J. Allergy 28:514 (Nov.) 1957. 7. Bickerman, H. A.: To be published. 8. Farber, S. M., and Wilson, R. H. L.: To be published.

TESSALON ® (benzonatate CIBA)



Tessalon® perles

Controls cough where cough begins—in the chest.

Controls cough at the cough reflex center—in the medulla.

Thins sputum.

Increases vital capacity and ventilation.

Improves exercise tolerance.

Relieves dyspnea.

CIBA
SUMMIT, N. J.



for the stress component in

SEVERE INFECTION

STRESSCAPS®

STRESS FORMULA VITAMINS LEDERLE

for a more favorable therapeutic course

Host defense mechanism—fundamental to successful antibiotic control in severe infection—and recovery of normal organic function place a stress-demand on metabolic processes. Therapeutic supplements of B and C vitamins, as the basis of enzyme activity, protein-carbohydrate utilization, endocrine response and antibody formation,[1] are often required.[1,2]

STRESSCAPS provide high levels of water-soluble vitamins to insure a better prognosis.

Each capsule contains:

Thiamine Mononitrate (B_1)	10 mg.
Riboflavin (B_2)	10 mg.
Niacinamide	100 mg.
Ascorbic Acid (C)	300 mg.
Pyridoxine HCl (B_6)	2 mg.
Vitamin B_{12}	4 mcgm.
Folic Acid	1.5 mg.
Calcium Pantothenate	20 mg.
Vitamin K (Menadione)	2 mg.

Average dose: 1-2 capsules daily.

1. Daskal, H.M.: Antibiotic Med. & Clin. Ther. 2:33 (June) 1956.
2. Pollack, H. and Halpern, S.L.: Therapeutic Nutrition, National Research Council, Washington, D.C., 1952.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N.Y.

Concluded from page 83a

16. Which one of the following types of brain waves is sharply reduced by opening of the eyes?

A. theta;
B. delta;
C. gamma;
D. alpha;
E. beta.

17. So-called "swimmer's itch" is caused by:

A. salt water;
B. infection with algae;
C. sting of jelly fish;
D. overexposure to sunlight;
E. schistosoma.

18. In herpes zoster the area of the body most commonly affected is the:

A. trunk;
B. fingers;
C. face;
D. legs;
E. arms.

19. In the serologic diagnosis of typhoid fever:

A. significant agglutination titers occur during the first week of the disease as a rule;
B. previous vaccinations with salmonella have little effect on the "H" agglutination titer;
C. the "O" agglutinin titer is more important than the "H" agglutinin titer;
D. "H" agglutinins are more important than either "O" or Vi;
E. "Vi" antigen must be included in the agglutination studies to establish the diagnosis.

20. An acute infectious disease which is characterized by a sudden onset, usually with a severe chill, and a rapidly rising temperature followed by a more or less general papular eruption is:

A. chicken pox;
B. measles;
C. smallpox;
D. scarlet fever;
E. herpes zoster.

21. An *erroneous* diagnosis of metastatic carcinoma of the prostate based on an elevation of the serum acid phosphatase may be the result of:

A. tumor metastatic to the prostate;
B. acute prostatitis;
C. benign prostatic hypertrophy;
D. prostatic massage;
E. therapeutic calcium administration.

22. A significant curve of the colloidal gold test performed on cerebrospinal fluid has been described for all of the following conditions *except:*

A. brain tumor;
B. primary syphilis;
C. multiple sclerosis;
D. general paresis;
E. syphilitic meningitis.

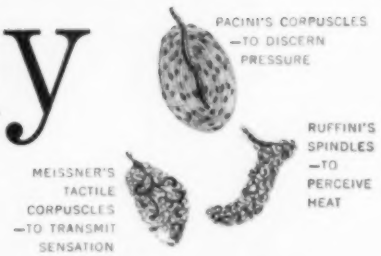
23. A man falls over the railing of a staircase and fractures three ribs in his right chest. In the next few hours, he has severe hemoptyses, and examination of the chest reveals dullness to flatness on percussion over the lower ¾ of the right chest, absent breath and voice sounds in this area, and hyperresonance is noted under the right clavicle. In addition, the left border and cardiac dullness on percussion are found at the anterior axillary line. The most likely diagnosis is:

A. cardiac enlargement and congestive heart failure;
B. uncomplicated rib fractures;
C. pneumonia complicating fractured ribs;
D. hemopneumothorax.

Answers on page 258a



the anatomy of touch



Invaluable to the diagnostician in helping him to exercise his skill are complex nerve endings which comprise the anatomy of touch.

Considerations of tactile sensitivity are probably nowhere more important than in the choice of a prophylactic. "Built-in" sensitivity characterizes RAMSES,® the superior rubber prophylactic. RAMSES are preferred by men because they are tissue-thin, transparent, naturally smooth, designed to interfere *least* with sensation – yet amazingly strong.

Confronted with vaginal trichomoniasis, many physicians now routinely specify use of a prophylactic to prevent conjugal re-infection.[1] In a recent study it was again pointed out that "...sexual intercourse accounted for most cases of re-infection."[2] Husbands cooperate more readily in the wife's treatment plan when you specify RAMSES, the prophylactic with "built-in" sensitivity.



RAMSES®
PROPHYLACTICS

RAMSES is a registered trade-mark of Julius Schmid, Inc.

1. Weiner, H. H.: Clin. Med. *5*:25 (Jan.) 1958.
2. Giorlando, S. W., and Brandt, M. L.: Am. J. Obst. & Gynec. *76*:666 (Sept.) 1958.

JULIUS SCHMID, INC.
423 West 55th Street, New York 19, N. Y.

quiets the cough

and calms the patient . . .

Expectorant action

Antihistaminic action

Sedative action

Topical anesthetic action

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EXPECTORANT

Promethazine Expectorant, Wyeth
with Codeine Plain (without Codeine)

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NEW NON-NARCOTIC FORMULA

Pediatric **PHENERGAN**
EXPECTORANT
with Dextromethorphan*, Wyeth

*Dextromethorphan for an antitussive action equivalent to that of codeine without codeine's side-effects

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in hypertension— first rule out pheochromocytoma

Readily performed in the office unassisted, the reliable diagnostic test for pheochromocytoma with Regitine should be routine in hypertension. A potent antiadrenergic, Regitine is also valuable therapeutically in hypertensive crises and in peripheral vascular disease. A concise, illustrated booklet, THE TEST WITH REGITINE FOR PHEOCHROMOCYTOMA, is available at no charge. For your copy write: Medical Service Division, CIBA, Summit, New Jersey. SUPPLIED: *Ampuls* (for intramuscular or intravenous use in diagnosis), each containing 5 mg. Regitine methanesulfonate in lyophilized form. *Tablets* for oral administration (white, scored), each containing 50 mg. Regitine hydrochloride.

Regitine®
(phentolamine CIBA)



CIBA SUMMIT, NEW JERSEY



The world-wide acceptance of "Mysoline" is amply supported by the work of more than 100 investigators in 15 different countries. This effective anticonvulsant for control of grand mal and psychomotor attacks is well tolerated. Side effects, when they occur, are usually mild and transient; and no irreversible toxic effects have been reported. Four years of successful clinical use in the United States further confirms the effectiveness and safety of "Mysoline."

Supplied: 0.25 Gm. scored tablets, bottles of 100 and 1,000.

"MYSOLINE"

Brand of Primidone

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"Mysoline" is available in the United States by arrangement with Imperial Chemical Industries, Ltd.

Ayerst

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therapeutic sulfa levels

Midicel®

(sulfamethoxypyridazine, Parke-Davis)



for 24 hours with a single tablet

MIDICEL differs from ordinary sulfonamides because it affords *all* these clinical advantages: ***1 tablet-a-day schedule***—greater convenience and economy for patients • ***rapid effect***—prompt absorption • ***prolonged action***—effective plasma and tissue concentrations sustained day and night with 1 tablet daily • ***wide antibacterial spectrum***—effective in urinary tract infections, upper respiratory infections, bacillary dysenteries, and surgical and soft tissue infections,due to sulfonamide-sensitive organisms • ***well tolerated***—low dosage and high solubility minimize possibility of crystalluria.

Adult Dosage: Initial (first day)—2 tablets (1 Gm.) for mild or moderate infections, or 4 tablets (2 Gm.) for severe infections. Maintenance—1 tablet (0.5 Gm.) daily. ***Children's Dosage:*** According to weight. See literature for details of dosage and administration. ***Available:*** Quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000.

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

65459



IN THREATENED
OR HABITUAL ABORTION...
MORE FULL TERM PREGNANCIES...

ENOVID®



...SIMULATES CORPUS LUTEUM HORMONES, thereby
...SUPPORTS THE ENDOMETRIUM, hence
...SUSTAINS FETAL LIFE

Enovid, through its pronounced progesterone-like action and its lesser estrogenic action, enhanced by the addition of ethynylestradiol 3-methyl ether, mimics the action of the corpus luteum hormones.

In *threatened abortion*, due to an endocrine failure to support the hypertrophied endometrium of pregnancy, the potent progesterone-like activity of Enovid is of value.

In *habitual abortion*, resulting from inadequate corpus luteum activity, Enovid supports the decidual endometrium and therefore encourages continuation of the pregnancy.

Each 10-mg. tablet of Enovid contains 9.85 mg. of norethynodrel, a new synthetic steroid, and 0.15 mg. of ethynylestradiol 3-methyl ether.

DOSAGE IN THREATENED ABORTION

Two or three tablets daily on appearance of symptoms. This dosage may be reduced to one or two tablets daily when symptoms disappear. The reduced dosage should be continued to term and an increased dose given if symptoms reappear.

DOSAGE IN HABITUAL ABORTION

One or two tablets daily as soon as pregnancy is diagnosed and continued without interruption at least through the fifth month. Enovid may be safely continued to term if desired.

ENOVID Oral Synthetic Endometropin

[brand of norethynodrel with ethynylestradiol 3-methyl ether]

SEARLE / *Research in the Service of Medicine.*

G. D. SEARLE & CO., Chicago 80, Illinois



MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Atratan, Irwin, Neisler & Co., Decatur, Illinois. Tablets, each containing 1 mg. atropine tannate. Indicated for relief of smooth muscle spasm and resulting pain of ureteral colic; also for post-instrumentation therapy in urology, and for renal colic. *Dose:* In renal colic, 1 to 2 tablets every four hours depending on severity. *Sup:* Bottles of 50.

Caytine, Lakeside Laboratories, Inc., Milwaukee, Wisconsin. Alpha (alpha-methyl-e,4-methylenedioxyphenethylamino) - methyl - protocatechuyl alcohol hydrochloride. To provide prompt and prolonged relief in cases of asthma, emphysema, bronchitis and bronchiectasis. *Dose:* As directed by physician. *Sup:* Tablets; 2 mg. plain, and with 32 mg. pentobarbital, each in bottles of 50; Inhalation; 1:100, dropper bottles of 10 cc.; Injection; 0.5 mg. per cc., ampules of 1 cc.

Compazine Spansule 75 Mg., Smith Kline & French Laboratories, Philadelphia, Pennsylvania. New dosage form primarily for use in mental hospitals in the treatment of severe mental and emotional conditions. *Sup:* Bottles of 30 and packages of 1500.

Cosa-Signemycin Oral Suspension, Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., Brooklyn, New York. Each 5 cc. teaspoonful, when reconstituted, contains 125 mg. glucosamine-potentiated tetracycline equivalent to 83 mg. of tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin. Indicated for treatment of infections caused by susceptible organisms, especially in mixed infections or whenever sensitivity testing is difficult or impractical. *Dose:* As directed by physician. *Sup:* Bottles of 2 oz.

Deladumone 2X, E. R. Squibb & Sons, Inc., Division of Olin Mathieson Chemical Corp., New York, New York. Double strength injectable, containing in each cc. 180 mg. testosterone enanthate and 8 mg. estradiol valerate. Indicated for suppressing the onset of lactation when given soon after parturition, before suckling has taken place, and to eliminate established lactation at the termination of nursing. *Dose:* As directed by physician. *Sup:* Vial of 2 cc.

Deluteval, E. R. Squibb & Sons, Inc., Division of Olin Mathieson Chemical Corp., New York, New York. Injectable, each cc. containing 125 mg. hydroxyprogesterone caproate and 2.5 mg. estradiol valerate in sesame oil with 35% benzyl benzoate. Indicated for dysfunctional uterine bleeding, primary and secondary amenorrhea, disturbances of the menstrual cycle, deficiency syndromes, local manifestations of estrogen deficiency, and infertility with or without inadequate corpus luteum function to maintain decidual reac-

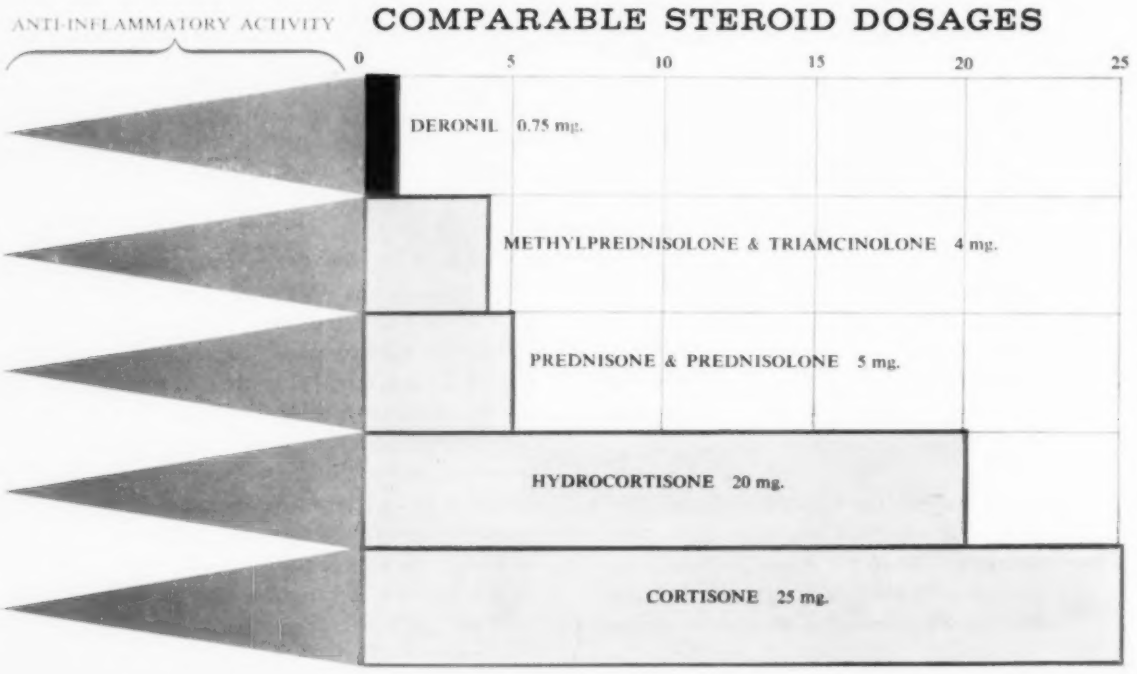
Continued on page 105a

NEWEST STEROID

now available for your Rx

maximum steroid effectiveness in more patients; highest anti-inflammatory activity per milligram; lowest dosage of currently

guide to the clinical use of new **DERONIL**
dexamethasone



Comparative dosages of corticosteroids for equivalent anti-inflammatory activity

DERONIL

clinically preproved

dexamethasone

used steroids; greatest freedom from significant diabetogenic effects; widest range of steroid usefulness

Dosage pre-established in the vast majority of steroid-responsive diseases

in rheumatoid arthritis

Suggested initial suppressive dosage of DERONIL is 1.5 to 3.0 mg. per day until a good response is obtained. This usually occurs in 3 or 4 days but the dosage may be continued, if necessary, for 7 days. *If no response is noted in 7 days, the possibility that it is not rheumatoid arthritis should be considered.* Proper maintenance dosage is determined by decreasing the daily suppressive dosage by 0.375 mg. every 2 or 3 days.

Maintenance dosages usually range between 0.75 and 1.5 mg. per day.

in bronchial asthma

In status asthmaticus, as much as 4.5 to 6.0 mg. a day of DERONIL may be required for 1 or 2 days to abate the attack. Thereafter, dosage is reduced by 0.375 or 0.75 mg. every other day until the maintenance level is reached or therapy discontinued. *In chronic intractable asthma,* initially 4.5 mg. daily (more may sometimes be required) is usually given until satisfactory response is obtained or for an arbitrary period of 7 days. Dosage is then reduced by 0.375 or 0.75 mg. per day until the maintenance level is reached. Patients may be maintained on 0.75 to 3.0 mg. per day for long periods of time when required.

in steroid-responsive dermatoses

Initial dosage ranges between 3.0 and 6.0 mg. per day until satisfactory control is achieved, after which daily dosage is reduced by 0.375 or 0.75 mg. every 2 or 3 days until a maintenance level is reached. In self-limited and usually short-term disorders (*e.g.*, rhus dermatitis, contact dermatitis, urticaria, angioedema, neurodermatitis), therapy may ordinarily be discontinued after the process has been controlled for several days.

in inflammatory eye diseases

Initial therapy is usually 3.0 to 6.0 mg. daily in divided doses until satisfactory control is obtained or for an arbitrary period of 7 days, whichever is shorter. Dosage is then reduced by 0.75 mg. daily until a maintenance level is reached for chronic disorders requiring continuous therapy.

Packaging

DERONIL Tablets, 0.75 mg., bottles of 50 and 500.

DERONIL – T.M. – brand of dexamethasone.

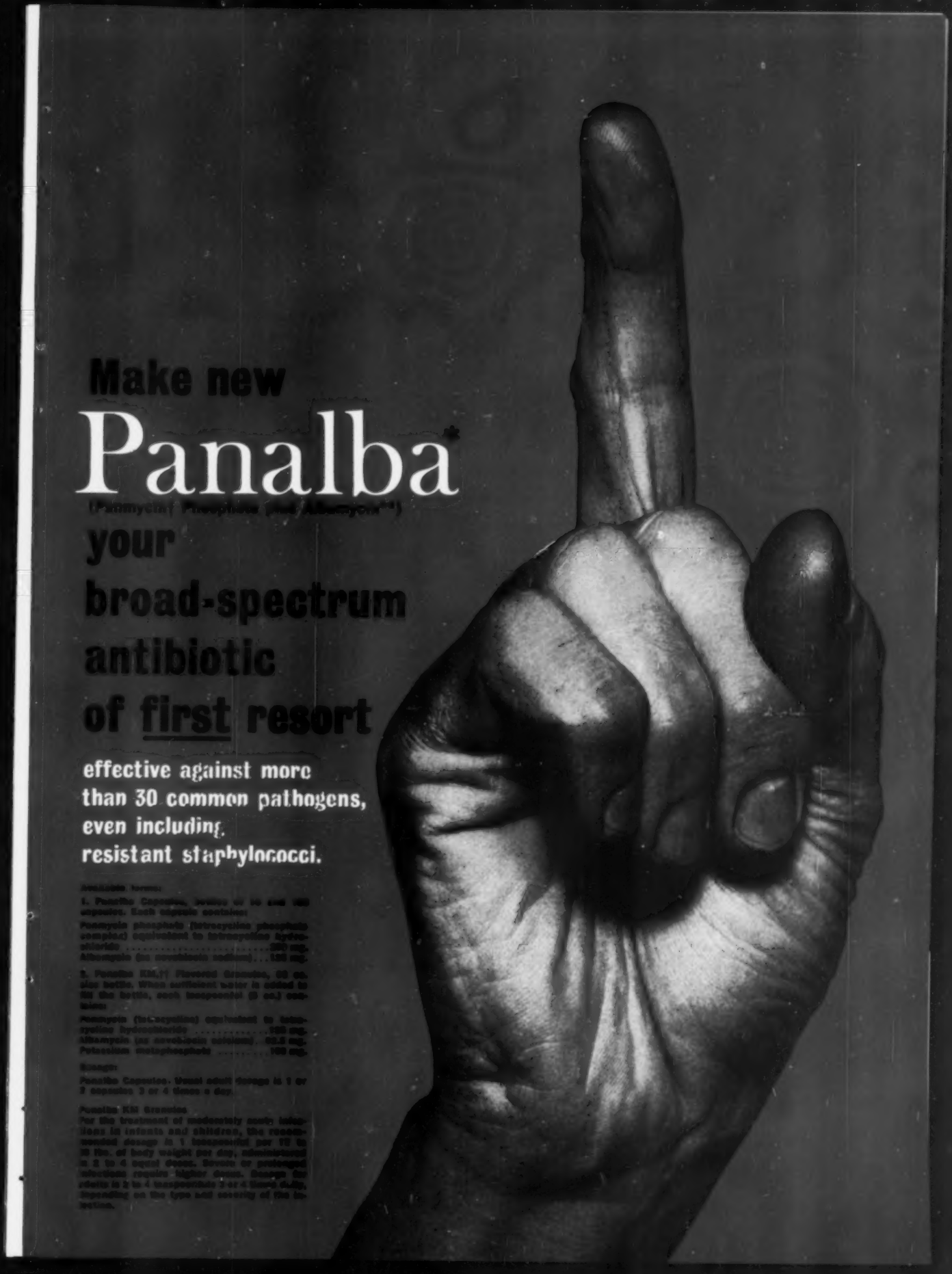
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DR J-1128

In potentially-serious infections...

The Upjohn Company, Kalamazoo, Michigan


Make new
Panalba
your
broad-spectrum
antibiotic
of first resort
effective against more
than 30 common pathogens,
even including
resistant staphylococci.

PMB-200

"Premarin" with Meprobamate

Each tablet contains 0.4 mg. "Premarin," 200 mg. meprobamate.

PMB ("Premarin" with Meprobamate) is an ideal preparation when the patient needs extra relief from anxiety and tension during the menopause. Once these symptoms are under control, therapy may be continued with "Premarin" alone.

Simple to prescribe as merely PMB



Supply: No. 880, PMB-200, bottles of 60 and 500.

Also available No. 881, PMB-400 ("Premarin" 0.4 mg. with meprobamate 400 mg.), bottles of 60 and 500.

Ayerst

AYERST LABORATORIES • NEW YORK 16, N. Y. • MONTREAL, CANADA

5827 "Premarin"a conjugated estrogens (equine) Meprobamate, licensed under U.S. Pat. No. 2,724,720

There is A Therapeutic Reason for The Decorative Jar

The attractive FILIBON jar reminds your pregnant patient to take her prenatal supplement daily. You can be sure that the vitamins, minerals, trace elements in this complete formula will provide the *everyday* nutritional support you prescribed.

And the patient feels better on FILIBON. Well tolerated ferrous fumarate and smaller, dry-filled capsules do not compound her problems with nausea of pregnancy.

The up-to-the-minute formulation includes both vitamin K and AUTRINIC* Intrinsic Factor Concentrate, always enhancing B_{12} serum levels.

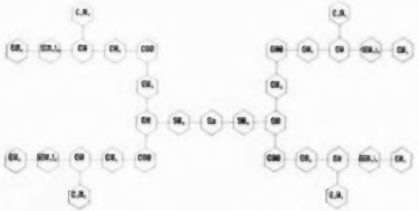
For complete formula see P.D.R. page 688.



Lederle **LEDERLE LABORATORIES,** a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

*Reg. U. S. Pat. Off.

NEW THERAPEUTIC CHEMICAL IN CONSTIPATION



Calcium Bis-(Dioctyl Sulfosuccinate)

The discovery by Wilson and Dickinson[1] at the University of Michigan that dioctyl sodium sulfosuccinate could correct constipation through fecal softening action marked a real advance in therapy. In cases of unimpaired bowel motility this new physico-chemical principle presented a new means of correcting bowel dysfunction without the need of catharsis.

Continuing research has now led to the development of a new therapeutic surfactant with more than double the surfactant effectiveness of the original dioctyl sodium sulfosuccinate.

This new substance, calcium bis-(dioctyl sulfosuccinate), reduces interfacial tension to a minimal value at a concentration of only 0.035 per cent. A minimal value of this order in dynes per centimeter requires 0.1 per cent or more of the older dioctyl sodium sulfosuccinate.

INTERFACIAL TENSION
(Oil-Water Interface)
Calcium Bis-(Dioctyl Sulfosuccinate)

Dynes/cm.	Concentration
55.0	0.00%
13.3	0.01%
9.9	0.02%
8.4	0.03%
7.4	0.035%

Improved homogenization of the immiscible lipoid and aqueous phases of the intestinal content depends upon maximum reduction of interfacial tension. The greatest degree of fecal softening is achieved with surfactant agents capable of reducing interfacial tension to minimal values. Calcium bis-(dioctyl sulfosuccinate) represents a markedly more effective surfactant agent since maximum surfactancy results from less than half the concentration of previously used surfactants.

DOSAGE:

DOXICAL 240 mg. SOFT GELATIN CAPSULES – *for adults, one daily.*

DOXICAL 50 mg. SOFT GELATIN CAPSULES – *for children and adults with minimum needs, one to three daily.*

1. Wilson, J. L., and Dickinson, D. G.: J.A.M.A. 158:261-263 (May 28) 1955.

This new chemical, definitely superior in surfactant action, is indicated in the treatment of chronic constipation where non-laxative fecal softening therapy is the preferred regimen.

The usual adult dose is 240 mg. daily. For children and adults with minimum needs, 50 to 150 mg. daily may be given.

DOXICAL

LLOYD BROTHERS, INC. **CINCINNATI 3, OHIO**

Continued from page 97a

tion as in endometriosis. *Dose:* 2 cc. deep i.m. gluteal. *Sup:* Vial of 2 cc.

Demerol W/Lotusate, Winthrop Laboratories, New York, New York. Tablets, each containing 100 mg. Demerol HCl and 100 mg. lotusate. Indicated to provide adequate sedative and hypnotic effects in a wide variety of clinically painful conditions. *Dose:* Adults—½ to one tablet at bedtime; a similar dose, twice daily, is suggested for daytime analgesia and sedation. *Sup:* Bottles of 100.

Depo-ACTH in Mix-O-Vials, The Upjohn Company, Kalamazoo, Michigan. New package forms containing ACTH in the dry, stable form in the lower compartment and the gelatin diluent in the upper compartment, have the advantages of not requiring refrigeration and of greatly prolonged stability at room temperature. Indicated for suppression of collagen diseases, acute ophthalmologic inflammations, diseases of the skin, hypersensitivities, gout, panhypopituitarism, nephrotic syndrome, and ulcerative colitis. *Dose:* 20 to 90 units every 24 hours depending upon nature and severity of condition. *Sup:* 40 USP units per cc. and 80 USP units per cc. in Mix-O-Vials of 5 cc. 40 USP units also available in 1 cc. Mix-O-Vials.

Dimetane Expectorant, A. H. Robins Company, Inc., Richmond, Virginia. Each 5 cc. teaspoonful contains 2 mg. parabromdylamine maleate, 100 mg. glyceryl guaiacolate, 5 mg. phenylephrine HCl, and 5 mg. phenylpropanolamine HCl. Indicated to relieve coughs, providing demulcent, expectorant actions, antihistaminic action for allergic manifestations of respiratory illnesses, and sympathomimetic agents for nasal decongestion and bronchodilation. Dimetane Expectorant-DC adds dihydrocodeinone to the above formula for cough depressant action. *Dose:* Children, ½ to 1 teaspoonful three or four times daily. Adults, 1 to 2 teaspoonfuls four times daily, or more as indicated. *Sup:* Bottles of 1 pt.

Mestinon Timespan Tablets, Roche Laboratories, Division of Hoffmann-La Roche Inc., Nutley, New Jersey. Sustained-release form of pyridostigmin, each tablet containing 180 mg. Indicated to facilitate the control of myasthenic symptoms. *Dose:* As directed by physician. *Sup:* Bottles of 100 and 1000.

Novahistine-Dh, Pitman-Moore Co., Indianapolis, Indiana. Tablets, each containing 20 mg. phenylephrine HCl, 4 mg. chlorprophenpyridamine, and 5 mg. dihydrocodeinone. Indicated to control useless, exhausting cough and keep air passages open for eight to twelve nours with a single dose of 2 tablets. *Dose:* 2 tablets, morning and night. *Sup:* Bottles of 100.

Parenteral Oleandomycin, J. B. Roerig & Co., New York, New York. Vials, each containing 500 mg. oleandomycin as the phosphate salt. Indicated for treatment of severe infections, including those involving most streptococci and resistant staphylococci. *Dose:* Administered intravenously or intramuscularly after adding suitable diluent. *Sup:* Vials of 500 mg.

Pen·Vee K Liquid, Wyeth Laboratories, Philadelphia, Pennsylvania. After reconstitution of dry powder form of penicillin V potassium, each 5 cc. teaspoonful contains either 125 mg. or 250 mg. of drug. Indicated for prevention and treatment of various common infections. *Dose:* 125 mg. or 250 mg. t.i.d. *Sup:* 125 mg. strength as vial of powder to be reconstituted with water to make 40 cc.;

Continued on page 110a



PATIENT EXPRESSES CONFIDENCE IN DOCTOR'S COUGH MEDICINE

AN EXPRESSION OF CONFIDENCE in your therapeutic ability may be expected when you prescribe Pyribenzamine Expectorant for cough in children. A combination of 3 active agents, Pyribenzamine Expectorant with Ephedrine relieves congestion, makes breathing easier, promotes productive expectoration. And the cherry flavor is usually quite acceptable to pediatric tastes.

DOSAGE: ½ to 1 teaspoon every 3 or 4 hours.

SUPPLIED: Expectorant with Ephedrine, containing 30 mg. Pyribenzamine citrate 10 mg. ephedrine sulfate and 80 mg. ammonium chloride per 4-ml. teaspoon.

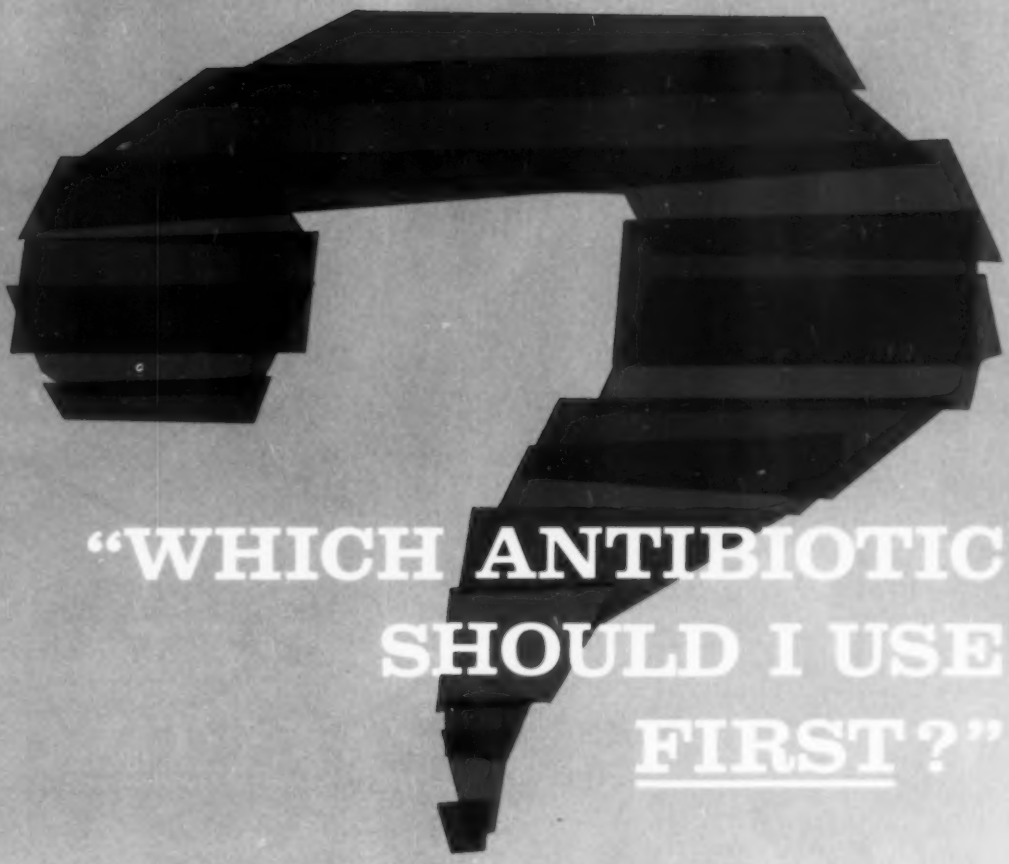
ALSO AVAILABLE: Pyribenzamine Expectorant with Codeine and Ephedrine, same formula plus 8 mg. codeine phosphate (exempt narcotic).

PYRIBENZAMINE® citrate (tripelennamine citrate CIBA)

2 2626MB

Pyribenzamine® Expectorant with EPHEDRINE

CIBA
SUMMIT, N.J.



"WHICH ANTIBIOTIC SHOULD I USE FIRST?"

Bristol

In soft tissue infections,
in genito-urinary infections,
in respiratory tract staph infections...

KANTREX®

KANAMYCIN SULFATE Injection

is the logical "first choice" antibiotic—because...

KANTREX®

KANAMYCIN SULFATE

Injection

...is the logical "first choice" antibiotic because it is

- ***bactericidal against a wide range of organisms***
- ***dramatically rapid in action***
- ***clinically safe in specified dosage***
- ***does not encourage development of resistant organisms***

"...leaves the least for the host to do"



"Kanamycin was extremely effective in the treatment of patients with infections of the soft tissues, postoperative wounds, urinary tract, respiratory system, and various miscellaneous surgical infections."[4]

Supply:

Available in rubber-capped vials as a ready-to-use sterile aqueous solution in two concentrations (stable at room temperature indefinitely):

KANTREX (kanamycin sulfate) 0.5 Gm. in 2 ml. volume.
KANTREX (kanamycin sulfate) 1.0 Gm. in 3 ml. volume.

References:

1. Davies, F. G.: Annals N.Y. Acad. Sci. 76:129, 1958.
2. Finegold, S. M. *et al.*: *Ibid.* 76:319, 1958.
3. Hirsh, H. L.: Antibiotics Annual 1958-1959. In press.
4. Rutenburg, A. M., Koota, G. M., and Schweinburg, F. B.: Annals N.Y. Acad. Sci. 76:348, 1958.
5. Yow, E. M., and Manzon, O. T.: Antibiotics Annual 1958-1959. In press.

KANTREX Sensitivity Discs and comprehensive literature available on request

Bristol LABORATORIES INC., SYRACUSE, NEW YORK

Clinical Reports

"The rapidity with which bacteria are killed by this agent is reflected by the promptness of the clinical response."[4]

•

"It is apparent that kanamycin is a useful drug in the treatment of staphylococcal infections, particularly those resistant to other antibiotics."[3]

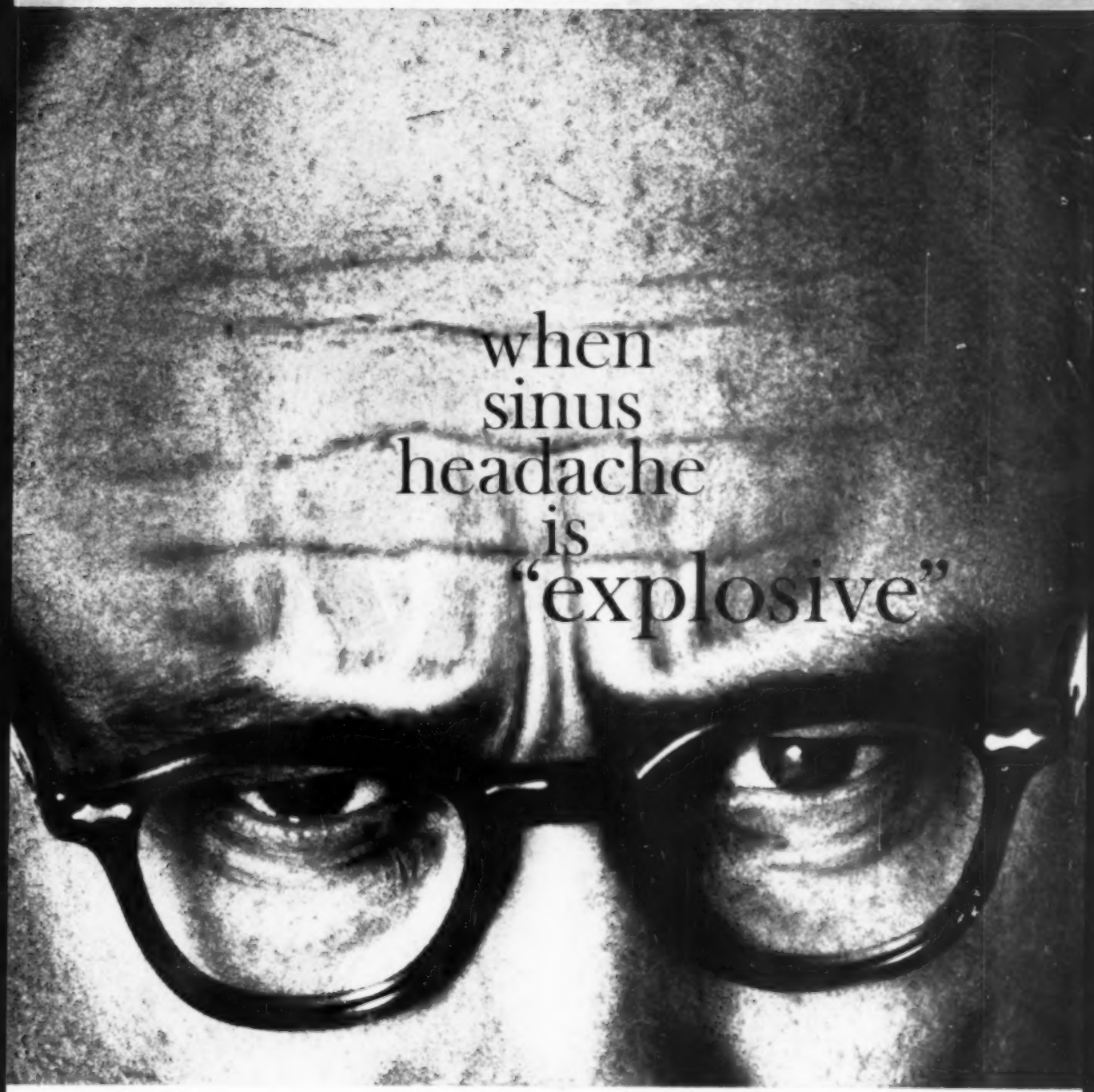
"Urinary tract infections caused by such organisms as *E. coli* and the *Aerobacter-Klebsiella* group and most strains of *Proteus* responded favorably to kanamycin therapy with sterilization of the urine in 24 to 48 hours."[5]

•

Out of 43 cases of furunculosis and soft-tissue infections, "37 healed with one course of treatment."[1]

•

"It appears that microorganisms do not readily develop resistance to this agent in the clinical setting."[2]



resolve it with NEW **Sinutab***

With a single prescription, Sinutab aborts pain, decongests, relieves pressure and provides mild tranquilizing action to relax the patient. Prescribe Sinutab for your patients with sinus or frontal headache.

DOSAGE: *Adults:* two tablets every four hours; prophylactically, one tablet every four hours. *Children 6 to 12 years:* one-half adult dose. SUPPLIED: Bottles of *30* tablets. SINUTAB FORMULATION: N-acetyl-para-aminophenol (APAP), 150 mg., (2½ gr.); Acetophenetidin, 150 mg., (2½ gr.); Phenylpropanolamine HCl, 25 mg., (⅜ gr.); Phenyltoloxamine Dihydrogen Citrate, 22 mg., (⅓ gr.).

*TRADEMARK

WARNER
CHILCOTT
MORRIS PLAINS, N. J.



natural bowel corrective

Senokot®

TABLETS / GRANULES

STANDARDIZED CONCENTRATE OF TOTAL ACTIVE PRINCIPLES OF CASSIA ACUTIFOLIA PODS. PURDUE FREDERICK

UNEXCELLED IN CORRECTION OF CONSTIPATION

"...acts in a way almost indistinguishable from the normal physiologic mechanism..."[1]

to assure:

- predictable, controllable reproducible evacuation
- gentle, strain-free elimination 8-10 hours after bedtime administration
- no mucosal irritation or griping
- normalized stool consistency
- reduction of dosage and withdrawal of medication
- rehabilitation of the large bowel mechanism

SUPPLY: *Granules:* Cocoa-flavored, in 8 and 4 ounce canisters. *Tablets:* Small and easy to swallow, in bottles of 100.

CITED REFERENCE: 1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. *14*:196 (Dec.) 1957.



Cerumenex® DROPS

for easy, safe, painless removal of ear wax without instrumentation

Proved clinically effective in 4,464 (95.0%) of 4,695 patients (ages 3 months to 83 years) with excess or impacted cerumen*

*Collective Clinical Data Based on Personal Communications and Published Articles

The Purdue Frederick Company

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NEW YORK 14, N.Y. | TORONTO 1, ONTARIO

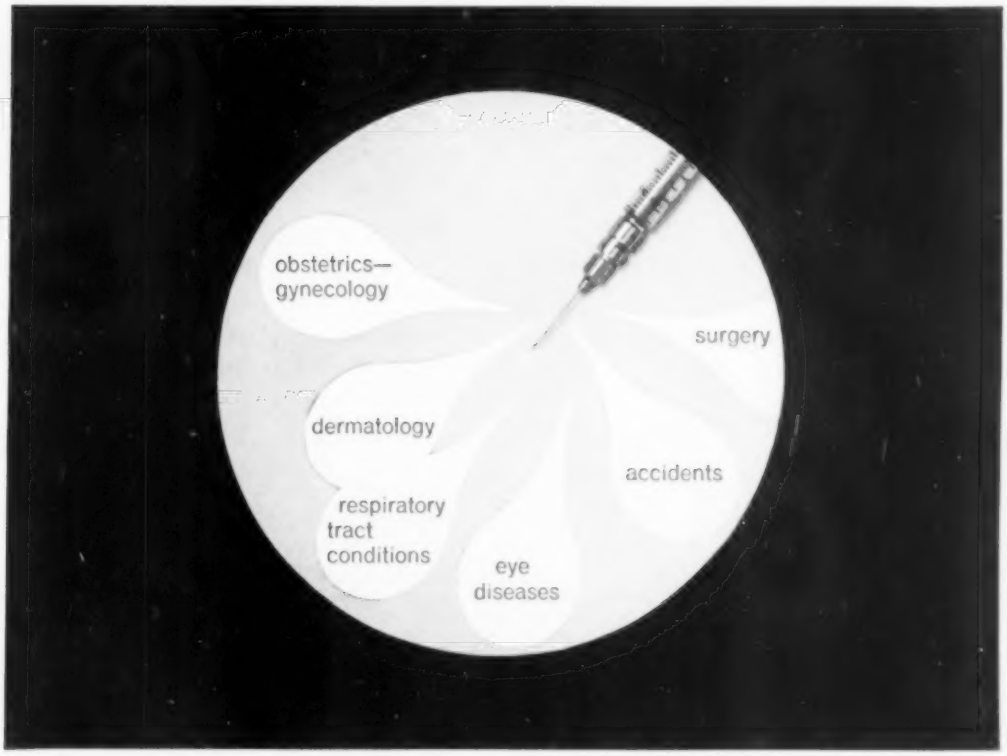
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CHYMAR®

AQUEOUS is indicated as: # a therapeutic agent —Chymar abolishes inflammation, hastens absorption of edema and blood extravasates, relieves pain, restores impaired local blood and lymph circulation. # a prophylactic agent—Chymar, when given early, suppresses the development of the inflammatory tissue reaction and edema. # an adjunctive agent—Chymar supplements antibiotics in local infections and is useful in inflammatory dermatoses. # Supplied: 5 cc. multiple dose vials. Each ml. contains 5,000 Armour Units of chymotrypsin. Also available—Chymar in Oil.

ARMOUR

PREFERRED FOR SYSTEMIC ANTI-INFLAMMATORY ACTION



ARMOUR PHARMACEUTICAL COMPANY • KANKAKEE, ILLINOIS / *a leader in biochemical research*

Continued from page 105a

250 mg. strength in combination package of vial of powder and bottle of diluent to make 40 cc.

Ritonic, Ciba Pharmaceutical Products, Inc., Summit, New Jersey. Capsules, each containing 5 mg. ritalin, 1.25 mg. methyltestosterone, 5 mcgm. ethinyl estradiol, 5 mg. thiamin, 1 mg. riboflavin, 2 mg. pyridoxin, 2 mcgm. B_{12}, 25 mg. nicotinamide, and 250 mg. dicalcium phosphate. Indicated for patients with vague complaints of ill health, lack of energy, lack of appetite, mild depression, etc. *Dose:* One capsule mid-morning, one mid-afternoon. *Sup:* Bottles of 100.

Sarcophen, Dome Chemicals, Inc., New York, New York. Liquid, containing 1.2% phenol in a non-aqueous menstruum. Indicated for psoriasis of the scalp, psoriatic involvement of the ear, and psoriatic plaques on the body. *Use:* Once or twice daily as directed. *Sup:* Bottles of 4 oz.

Stenisone, Organon Inc., Orange, New Jersey. Tablets, each containing 5 mg. prednisone, 20 mg. methandriol, 100 mg. magnesium trisilicate, 60 mg. dried aluminum hydroxide gel, 70 mg. calcium carbonate, 40 mg. magnesium carbonate, 66.6 mg. cyamopsis tetragonoloba gum, and 30 mg. cooked oat flour as binder. Indicated for cases requiring adrenal steroid therapy. *Dose:* Initially, 4 to 6 tablets daily. Reduce as directed by physician. *Sup:* Bottles of 30.

Concluded on page 114a



If she needs nutritional support . . . she deserves

GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York

Lederle



waterloo for an ulcer...

Napoleon exhibited ulcer symptoms through most of his adult life, yet he scorned medication for his everlasting "spasms of nervous origin." He ignored his infirmities with violent naïveté despite an intense interest in medical science. Thus, the classic hand-in-coat pose may have been the result of his paroxysms of gastric pain that sliced "like the stab of a penknife."

When your patient is besieged with an ulcer, Robins provides you with an armamentarium sufficient to repel it.

frontal assault—If your tactics dictate Local Action, try ROBALATE,® which is dihydroxy aluminum aminoacetate (0.5 Gm. per tablet or 5 cc.), an antacid of definitely superior efficacy.

encirclement – If you prefer to approach the ulcer Systemically, prescribe DONNATAL,® the anticholinergic-antispasmodic-sedative with the time-tested *natural* belladonna alkaloids and phenobarbital, a veteran campaigner without peer. FORMULA: hyoscyamine sulfate, 0.1037 mg.; atropine sulfate, 0.0194 mg.; hyoscine hydrobromide, 0.0065 mg.; and phenobarbital (¼ gr.), 16.2 mg.

multi-pronged attack – If you relish the strategy of combining antacid and antispasmodic-anticholinergic effects, use DONNALATE.® It combines one-half of a DONNATAL tablet with one ROBALATE, ideal allies for comprehensive ulcer therapy.

Victory will be yours.

A. H. ROBINS CO., INC. • RICHMOND, VA.

DONNALATE®

Robins

In Mild Depression

- with chronic fatigue
- with neurasthenia
- with difficulty in concentrating

Anti-Depressant

Deaner®

p-acetamidobenzoic acid salt of 2-dimethylaminoethanol



A totally new molecule with a new type of *gentle* antidepressant effectiveness... free from undesirable overstimulation and hyperirritability. Also, notably effective in children with behavior problems.

Supplied in scored tablets containing 25 mg. of 2-dimethylaminoethanol as the *p*-acetamidobenzoic acid salt. In bottles of 100 and 500.

Riker

Northridge, California

the next two patients
that you see
with biliary dysfunction
can demonstrate to you
the effectiveness of
NEOCHOLAN
in relieving

flatulence and belching
intestinal atony
indigestion
chronic constipation

Neocholan® greatly increases the flow of thin, nonviscid bile and corrects biliary stasis by flushing the biliary system. It also acts as a smooth muscle relaxant, resulting in an unimpeded flow of bile and pancreatic juices into the small intestine.

Each Neocholan tablet contains:

Dehydrocholic Acid Compound	250 mg.
Homatropine methylbromide	1.2 mg.
Phenobarbital	8.0 mg.

Bottles of 100 tablets.



PITMAN-MOORE COMPANY
P. O. Box 1656, Indianapolis 6, Indiana

Please send me, without charge, two clinical packages of Neocholan.

M.D.

ADDRESS

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Coming next month . . .

- *The Syndrome of Basilar Artery Insufficiency*

  By Charles M. Poser, M.D. and Robert A. Jordan, M.D., Assistant Professors in Medicine, University of Kansas School of Medicine, Kansas City, Kans.

- *Baseball Injuries*

  By George E. Bennett, M.D., Adjunct Professor Emeritus, Johns Hopkins University, Baltimore, Md. Innumerable baseball stars have consulted the world famous orthopedic authority, "Dr. Bennett of Johns Hopkins," for sore arms, trick knees and other baseball injuries.

- *Responsibility of Medical Profession in Prevention of Auto Accidents*

  By Fletcher D. Woodward, M.D., Clinical Professor, Otolaryngology, University of Virginia School of Medicine, Charlottesville, Va.

- *The Systolic Murmur in Childhood*

  By Eugene F. Diamond, M.D., Clinical Instructor, Pediatrics, Stritch School of Medicine, Chicago, Ill.

- *Use of Exogenous Thyroid Hormone as a Pituitary Depressant in the Management of Diseases of the Thyroid*

  By Colin G. Thomas, Jr., M.D., Assistant Professor of Surgery, University of North Carolina School of Medicine, Chapel Hill, N. C.

- *A Civilized Approach to Alcohol and the Motor Car*

  By Horace E. Campbell, M.D., Denver, Colo. Dr. Campbell is well known for his research in wound healing and splenomegaly.

- *The Gynecological and Obstetrical Patient as an Individual*

  By Charles E. Flowers, Jr., M.D., Associate Professor of OBG, University of North Carolina School of Medicine, Chapel Hill, N. C.

- *Management of Congestive Heart Failure*

  By Herman Tarnower, M.D., Scarsdale, N. Y. Former member of the Atomic Bomb Casualty Survey.

- *And many others.*

Modern Medicinals *Concluded*

Sultrin, Ortho Pharmaceutical Corp., Raritan, New Jersey. Water-dispersible, absorptive tablet containing an optimal association of three sulfonamides (sulfathiazole, sulfacetamide, N¹benzoylsulfanilamide) and urea. Indicated in postoperative vaginitis, or cervicitis, ulcerative vaginitis, nonspecific vaginitis and related gynecological conditions. *Dose:* One tablet intravaginally before retiring and again in the morning. *Sup:* Package of 20 with vaginal applicator.

Taomid, J. B. Roerig & Co., Div., Chas. Pfizer & Co., Inc., New York, New York. Tablets, each containing 75 mg. triacetyloleandomycin plus 111 mg. each sulfadiazine, sulfamerazine, and sulfamethazine. Indicated to provide dual action in treating bacterial infections where only one has been found ineffective. *Dose:* 2 or 3 tablets four times daily. *Sup:* Bottles of 60.

Vancocin, Eli Lilly and Company, Indianapolis, Indiana. Vancomycin, 500 mg. per ampule. Specifically indicated in patients seriously ill with infections caused by gram-positive organisms. Its primary importance is in the treatment of infections due to staphylococci and enterococci which are resistant to other antibiotic agents. Not presently recommended for routine therapy. Should not be used in patients with reduced renal function unless absolutely necessary. *Dose:* Adults; 500 mg. q. 6 hrs., or 1 Gm. q. 12 hrs., intravenously; or 2 Gm. daily by continuous infusion. Children; 20 mg. daily per pound of body weight. *Sup:* 10 cc. rubber-stoppered ampules, each containing 500 mg. dry, sterile powder. To this is added 10 ml. of Water for Injection, U.S.P. This solution then is *diluted further* for administration by infusion. Presently supplied to hospitals only on special order.



No more headache, tension, depression...

and she's on the *go* again!

SYNALGOS fulfills *all* of the desirable functions of an analgesic for mild to moderate pain. It provides quick, effective analgesia, eases tension, and counteracts depression.

SYNALGOS is especially indicated for sinus headache, tension headache, pain and headache of dysmenorrhea.

For severe pain, SYNALGOS-DC—SYNALGOS with dihydrocodeine—is recommended.

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CAPSULES

Promethazine Hydrochloride, Phenacetin, Acetylsalicylic Acid, and Mephentermine Sulfate

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Stop Useless Debilitating Cough of

Acute respiratory infections
Chronic sinusitis
Pharyngitis
Bronchitis
Postnasal drip
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Bronchogenic carcinoma
Cardiac decompensation
Pulmonary TB
Pulmonary TB with cold
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Measles

2 oz. TUSSIONEX® liquid . . . or 12 TUSSIONEX® tablets . . . a six day supply

TUSSIONEX®

A 'Strasionic' Antitussive • Dihydrocodeinone Resin – Phenyltoloxamine Resin

Natural Protection of Cough Mechanism Not Impaired

Over 12,000 Clinical Observations Demonstrate Effectiveness

(1) Chan, Y. T. and Hays, E. E., The American Journal of the Medical Sciences, August 1957;

(2) Townsend, E. H., Jr., The New England Journal of Medicine, January 9, 1958;

(3) Case, Leo J. and Frederik, W. S., Annals of Internal Medicine, July 1958.

Adults:
1 tsp. or tablet q 12 h

Children:
Under 1 year.....¼ teaspoon q 12 h
1-5 years.....½ teaspoon q 12 h
Over 5 years..... 1 teaspoon q 12 h

Each teaspoonful (5c.c.) or tablet Tussionex provides 5 mg. dihydrocodeinone and 10 mg. phenyltoloxamine as resin complexes

Rx only. Class B taxable narcotic.

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STRASENBURGH
Originators of 'Strasionic' (sustained ionic) Release

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In the Treatment of Rheumatic Disorders Greater stability of maintenance dosage minimizes risks of hormonal imbalance

In Sterazolidin, the anti-inflammatory actions of prednisone and Butazolidin* are combined to permit lower effective dosage of each. Clinical experience has indicated that patients can be well maintained on this combination over prolonged periods with relatively low, stable dosage levels of each component, thus minimizing the problems arising from excessively high doses of corticosteroids. Other side effects have also been gratifyingly few. Antacid and spasmolytic components are contained in Sterazolidin capsules for the benefit of patients with gastric sensitivity.

Sterazolidin®: Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

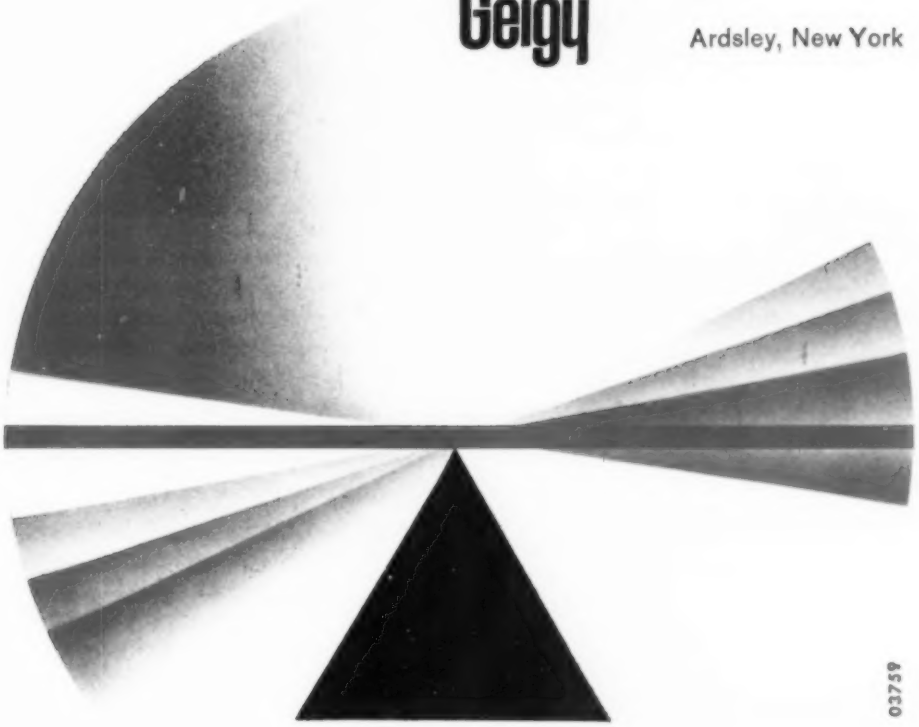
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*Geigy's trademark for phenylbutazone—Reg. U. S. Pat. Off.

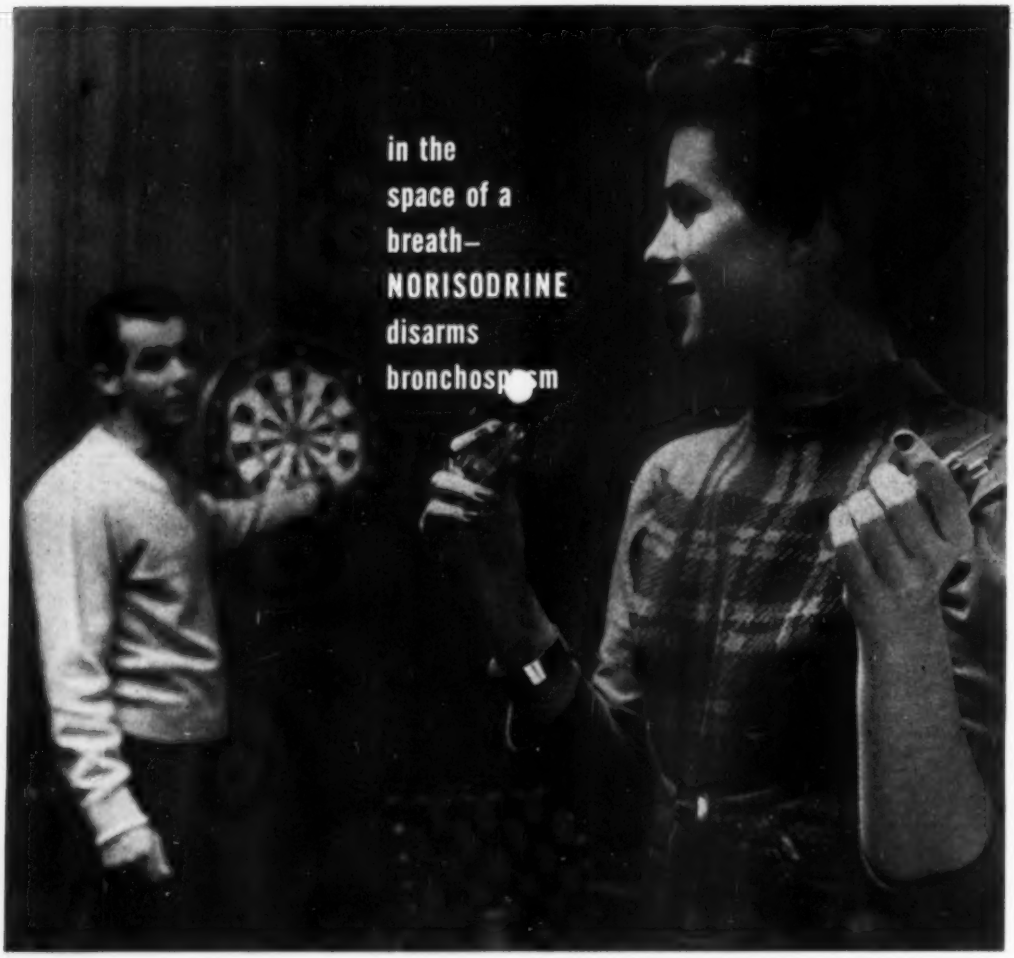
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prednisone-phenylbutazone, Geigy

Geigy Ardsley, New York



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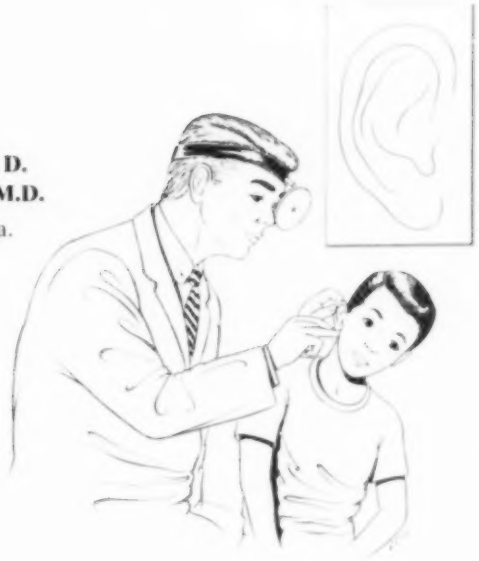
NORISODRINE Sulfate Powder in the AEROHALOR®
(ISOPROTERENOL SULFATE, ABBOTT) (POWDER INHALER, ABBOTT)

Gone are the days when, because of impending bronchospasm, the asthmatic need curtail normal activities. Now, in the pocket-size, easy-to-use Aerohalor, Norisodrine assures rapid relief for asthma—wherever the patient might go.

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Audiology and the Physician

Each year, the parents of thousands of children with hearing problems enter doctor's offices throughout the land. These parents anxiously ask such questions as, "Does my child have a hearing loss?" "What is wrong with his ears?" "Can you, as a doctor, do something to help him?" "Will he eventually outgrow his hearing loss?" What shall I do about his education?" and dozens of other questions in the same vein. In other words, you as the family doctor, are expected to know all the answers. It is with the purpose in mind of attempting to provide some of the essential information necessary to answer these questions that the present article is offered.

Audiology by definition means the science of the ear. Actually, in the fullest concept, it is all inclusive in that it pertains to all aspects of hearing and hearing problems. The three large areas of audiology are: otology, the medical science of hearing; teaching the deaf and hard of hearing; and clinical audiology which, for our purpose, we shall define as the testing and measurement of hearing.

The field of audiology has experienced a phenomenal growth in the past twenty years. There are many things which have lent impetus to its rapid development. The advent of the sulfonamides and antibiotics which provided the doctor with a weapon against middle ear infections, the development of the vacuum tube which made possible the manufacture of the audiometer and the hearing aid, the perfection of the fenestration operation for otosclerosis, the creation of aural rehabilitation centers during the last war for rehabilitating hard of hearing veterans, the improvement of diagnostic techniques on the part of the audiologist and the otologist, as well as the increased interest in hearing and hearing problems on the part of federal, state, and municipal governments—all have played a significant part in the ad-

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vancement of the entire field of audiology. More recently, of course, the mobilization and tympanoplastic operations have offered additional encouragement for the improvement of hearing in certain types of diseases of the ear.

Today, as never before, parents and teachers alike are becoming more and more aware of the significance of hearing loss. Parents are becoming concerned when the child is slow to talk and are seeking answers to their problem. No longer are earaches considered incidental to the growing up process. A high percentage of children who are not speaking by the time they are three and one-half years of age are found to have defective hearing. Many times, these children have no history of middle ear infection. An otological examination may reveal no pathological signs and yet the child cannot hear well. Fortunately, the modern otologist no longer advises the parent to wait patiently for the child's speech to develop. He realizes that these early years are important and that training should begin at the earliest possible moment.

Causes of Delayed Speech

Certainly if a child is not talking by the time he reaches three or three and one-half years of age, the parent should become deeply concerned and seek expert advice. There are five basic reasons why a child may fail to develop speech normally: mental retardation; brain damage; physical anomalies such as cleft palate or severe illnesses early in life; emotional disturbances; and hearing loss.

Diagnostically, it is not always easy to determine the underlying etiology of a child's failure to develop speech. As a matter of fact, it may be most difficult in that two or more of these anomalies may be present in combination in the same child. For instance, it is not at all uncommon to find a child suffering from brain damage and hearing loss. It is readily apparent that he also may have emotional problems superimposed, and of course it is not inconceivable that the same child may present a degree of mental retardation. Fortunately, most children do not present such a complicated diagnostic picture and since our discussion here is primarily limited to hearing loss, we shall proceed to the discussion of that topic.

Causes and Types of Hearing Loss

Peripheral hearing loss, i.e., loss caused by disease or damage to the hearing mechanism may be divided into three types according to the location of the insult—conductive, perceptive, and mixed.

Conductive Hearing Loss. Conductive hearing loss, sometimes called transmission deafness, is confined solely to the external middle ear. Anything which impedes or prevents the transmission of air borne sound from reaching the inner ear, through its normal pathway via the external and middle ear, will cause a loss of this type. Medically speaking, there are six common causes of conductive hearing loss—the occlusion of the eustachian tubes, obstruction of the external auditory canal, perforations of the tympanic membrane, suppurative otitis media, adhesive otitis media, and otosclerosis.

Recently it has been determined that individuals suffering from Paget's disease, osteogenesis imperfecta, Pyle's disease, and craniofacial dysostosis also may have a conductive involvement.

Perceptive Hearing Loss. Perceptive hearing loss, often called nerve deafness, may be subdivided into two types, again according to the location of the damage. Loss which occurs strictly within the cochlea, the end organ of hearing, is referred to as a perceptive loss of the cochlear type. Retro-labyrinthine loss is that type of perceptive loss in which the lesion is located beyond the cochlea and involves the eighth cranial nerve.

There are many causes of perceptive hearing impairment and only a few of them can be mentioned here. The anomaly may be congenital or it may be adventitious. Congenital loss may be inheritable or it may be caused by other factors such as illnesses of the mother during pregnancy. Rubella, particularly has been found to be especially damaging to hearing if it is contracted by the mother during the first three months of pregnancy. As in

other parts of the body, nature sometimes fails to complete her task, and the inner ear may fail to develop properly in utero. The Rh factor also may play a significant role in congenital hearing losses.

Causes of perceptive involvement after birth include such things as toxicity resulting from disease or drugs, high fever, fracture of the temporal bone, excessive noise, tumors of the eighth cranial nerve, cochlear degeneration caused by old age, vascular disturbances, and imbalance of the fluids of the inner ear.

Meningitis

Meningitis among the diseases, and excessive dosages of dihydrostreptomycin among the drugs have proved to be particularly damaging to hearing. Another factor which accounts for a substantial amount of inner ear damage is noise. Today as never before the ear is subjected to huge doses of noise—in machine shops, factories, on construction jobs, around jet planes, and in the armed forces. Excessive noise causes pathological fatigue to the ear which begins in the higher frequencies and over a period of years, may involve other frequencies in the speech range. The other mentioned causes of perceptive loss are self-explanatory with the possible exception of the relation of inner ear fluids to hearing loss. In labyrinthine hydrops, or true Ménières disease, it is generally conceived that for some undetermined reason an excessive amount of endolymphatic fluid builds up within the membranous duct and results in some or all of the following symptoms: nausea, nystagmus, vertigo, tinnitus, and hearing loss.

Mixed hearing loss, as the name implies, is a combination of both conductive and perceptive involvements. Sometimes the conductive component constitutes the principal cause of loss while in other cases the loss may be primarily perceptive in nature with some conductive involvement.

Central Hearing Loss

In some cases, and undoubtedly in more than had originally been suspected, the cause of hearing loss lies beyond the peripheral hearing mechanism and in the brain itself. Such losses are due to brain damage in one form or another. Auditory aphasia, a condition in which the individual may possess normal hearing acuity and yet have a complete inability to understand oral language, is an example of this type of deafness. There are undoubtedly different levels within the brain at which such damage may occur and it also may be in varying degrees. As mentioned above, a good many children who had been thought previously to have an uncomplicated hearing loss, are found, following more careful diagnostic procedures, to have central involvement. Older people sometimes demonstrate a condition which has been labelled phonemic regression which seems to be due to cerebral degeneration. These people may have only a mild hearing loss, yet their ability to discriminate sounds and words is extremely poor—far poorer, in fact, than would be expected of a younger person with the same type and degree of loss. Their problem is not that speech cannot be heard with sufficient loudness; they simply do not understand well, regardless of the level at which it is presented.

Hearing Tests

Now that some of the causes of hearing loss have been mentioned, it is appropriate to discuss how hearing loss is measured. In years past, tests of hearing acuity have been made with almost every conceivable object capable of producing noise or tone. Watches, whistles, coins, horns, and buzzers have all been used. Although such tests may serve some useful purpose in confirming the presence of a hearing loss, particularly if the loss is somewhat severe, such tests inherently present objectionable features. It is not sufficient that we know that an individual has defective hearing; we must know the dimensions of his loss, i.e., in what frequencies his hearing is deficient, and the amount of the loss at each frequency. The testing instruments mentioned above are inadequate to yield accurate information in either of these necessary aspects.

Tuning Fork Tests. Tuning forks have been used by doctors for a great many years as a means of evaluating hearing. They have an advantage over the tests mentioned above in that they do produce pure tones and consequently, if a patient is unable to hear a fork of 2048 cycles at any intensity, it is perfectly evident that he has a severe loss at that frequency. By using different forks which produce tones of various frequencies at octave intervals beginning with 128 cycles, the doctor can readily determine the pitches which the patient cannot hear. Furthermore, tuning forks yield a great deal of valuable diagnostic information. The Weber, the Rinné, and the Schwabach tests, if properly administered, give the doctor considerable insight into the type of hearing loss from which the patient is suffering.

Tuning forks, however, have one great deficiency in that, although it is readily apparent at what frequencies the patient's hearing is deficient, it is not so apparent the exact amount of loss which the patient has at each of those frequencies. In other words, the tuning fork is uncalibrated in terms of intensity. This is a serious drawback in that the evaluation of the patient's hearing in terms of amount of loss is largely a subjective one on the part of the doctor and is usually labelled under such general terms as mild, moderate, severe, and profound hearing loss. If a patient goes to another town and to another doctor, there may be subjective differences between the two doctors' evaluation of the same loss. What is needed, of course, is an instrument with a calibrated output so that, not only will the patient's hearing deficiencies in terms of frequencies be revealed, but also the amount of loss at each of those frequencies can be recorded on a chart.

The Audiometer. The instrument which does give this desired information is the audiometer, and the chart on which the test results are recorded is the audiogram. The aim of the clinician in the administration of the audiometric test, therefore, is to determine the patient's threshold for certain specified test frequencies. Threshold is usually interpreted as the minimum intensity level at which the patient responds to fifty percent of the tone presentations. Since the intensity output of the audiometer is calibrated in decibels relative to zero, normal threshold of hearing for each test frequency, the hearing loss of the patient can be read directly from the intensity dial of the audiometer in decibels for each of these test frequencies. Thus, if a patient's threshold turns out to be 40 decibels on the intensity dial of the instrument, it is properly interpreted that the tone had to be increased by 40 decibels above the normal threshold for that frequency before the patient could respond to fifty percent of the tone presentations; or, to put it another way, the individual had a hearing loss of 40 decibels at 1000 cycles. The result is so recorded on the audiogram. The frequencies usually tested in each ear in routine audiometry are 125, 250, 500, 1000, 2000, 4000 and 8000 cycles. Of course, as each test frequency is presented, the threshold values for that frequency will appear on the audiogram.

The audiogram thus answers a need not possible in tuning fork tests in that it establishes a record of the individual's hearing which can be included in medical files or sent from doctor to doctor or clinic to clinic in another part of the country. Not only does it present a graphic picture of an individual's pure tone loss, but it also becomes a permanent reference against which audiograms made at later dates may be compared. In this way it may be determined whether the individual's hearing loss is becoming progressively worse over a period of years.

The doctor or clinician who is familiar with audiometric testing and the interpretation of audiograms can tell at a glance whether the patient can hear high frequencies better than low frequencies, or conversely, whether the hearing difficulty is largely the result of an inability to hear low frequency sounds. Such information may have both diagnostic and therapeutic significance. Some persons may have almost an equal loss for low and high frequencies.

The assessment of hearing by pure tone is usually obtained clinically by two methods, air

and bone conduction. In air conduction the various frequencies are presented through an air conduction receiver placed on the ear and the tones are heard through the usual fashion, that is, by way of the external canal, middle ear and into the inner ear.

In bone conduction, a bone oscillator, usually placed on the mastoid bone, translates the various test frequencies directly to the skull and the skull itself is set into vibration. Only frequencies of 250, 500, 1000, 2000 and 4000 cycles are customarily employed in testing hearing by bone conduction. The purpose of testing hearing by this method is to measure cochlear residual, that is, to determine whether or not the inner ear is damaged and if so, in what amount.

As has been previously mentioned, it is apparent that a loss of hearing by air conduction could be caused either by damage, and/or obstruction to the external or middle ear, or by injury to the inner ear. On the other hand, since bone conduction relies on the transmission of sound through another route, it can readily be inferred that normal hearing by this method would imply an intact inner ear even though there was a substantial loss by air conduction. This would indicate a conductive type hearing loss. Conversely, if a relatively equal loss in demonstrated by both air and bone conduction, it is evident that the loss is in the inner ear and therefore of the perceptive type. Thus, a comparison of the air and bone curves on the audiogram gives significant diagnostic information as to the type of loss from which the patient is suffering.

It perhaps should be mentioned that hearing testing by bone conduction is not a simple and uncomplicated problem. Although it was stated above that the purpose of this manner of testing is to evaluate cochlear residual, it is not uniformly accepted that this is always accomplished. The reasons for the lack of clinical confidence in bone conduction results on the part of some authorities lies in the fact that there are so many variables involved in the procedure. Such items as the pressure of the oscillator on the skull, the thickness of the skin, the amount of aeriation in the mastoid bone, and the placement of the oscillator may affect the test results. Some authorities maintain that masking should be used uniformly since there is little if any attenuation through the skull in the low frequencies by bone conduction and there is always danger of testing the contralateral ear. Others contend that masking should be employed only when the tone is heard in the ear not under test in order to return the tone to the ear being tested. If masking is employed, the test tone may lateralize to the ear on which the masking receiver is located since the receiver creates an artificial conductive hearing loss. This danger is particularly great in the low frequencies. Under such a circumstance it may not be possible to return the tone to the ear under test no matter how much masking is employed in the opposite ear. There is no uniform method among manufacturers for calibrating bone conduction equipment, nor is there an established standard for such calibration as there is for air conduction. These are but a few of the possible sources of error which must be considered in testing by this method.

These variables notwithstanding, it is our belief that bone conduction can be done with a high degree of validity if the tester empirically establishes the threshold for normal bone conduction on his own audiometer and is also thoroughly familiar with all the possible pitfalls of this type of testing, avoiding as many of them as he can. Certainly the diagnostic information yielded from carefully conducted bone conduction tests is invaluable to the clinical audiologist and to the otologist.

Unfortunately, even the audiometer does not tell the audiologist all he wishes to know. Actually, the audiometric values define what the patient does not hear; it does not reveal how well he can utilize the hearing that remains —his residual hearing. Too, we do not listen to pure tones in our everyday life situations. We do listen to speech and, therefore, it is only reasonable that speech tests be given their rightful place in the audiologist's hearing evaluation procedures.

Speech Tests

The armed forces, doctors, public health nurse, teachers and others have, for many years, used speech tests in one form or another, as a means of testing hearing. Certain attempts were made to standardize these tests so than an individual who could hear conversational voice at 20′ was said to have 20/20 hearing, or normal hearing. If the patient was required to move five feet closer to the speaker before understanding conversational speech, his hearing was rated as 15/20 and so on.

There are certain inherent limitations to speech as a single instrument for testing hearing even when it is presented under controlled conditions. Speech, of course, is composed of many frequencies, and a hearing loss for speech, expressed as it is, in a single threshold score does not define the frequencies in which the patient is deficient. From this point of view, it therefore has very limited diagnostic value. Further, an individual who has normal hearing through 3000 cycles can understand speech almost perfectly so that it is entirely possible that a person could have a quite serious hearing loss at 4000 and 8000 cycles and yet score normal hearing on a speech test.

The limitations of testing hearing by speech are as a rule substantially increased when testing by the conversational voice method since tests are quite often, and in fact, usually are presented under relatively uncontrolled conditions. The speech material may not be standardized, the speaker has no way of estimating the intensity level at which he presents the speech, and the room conditions may be anything but ideal in terms of acoustics and noise level. Further, it is quite easy for the patient to falsify his hearing loss under such conditions if he wishes to do so. The results obtained from speech tests presented under such variable conditions can be quite spurious and may cause serious complications.

The solution to the latter problem is, of course, to present standardized speech tests through carefully calibrated, high fidelity electronic equipment where these variables can be eliminated or at least highly controlled. Under these conditions, such tests, coupled with the pure tone audiometric results, present in most cases, a quite adequate picture of an individual's hearing.

As for pure tones, hearing-for-speech evaluations are measured in terms of two dimensions — intensity and discrimination. An example will serve to clarify our meaning. A boy comes to the clinic complaining that he does not hear his teacher in the school room. It is confirmed that he has a hearing loss. The problem presented is this: At what intensity level will it be necessary to present speech before the patient understands fifty percent of the test items; and, even though speech is made sufficiently loud, how well can the youngster discriminate between words particularly selected to test discrimination ability.

The score obtained from the first measurement will be a threshold value, commonly called the speech reception score or, abbreviated, the SRT. The results of the second test yield the discrimination score.*

It is clear that an entirely different type of test is necessary to obtain speech thresholds from that required to evaluate discrimination abilities. Speech thresholds are generally obtained clinically through the use of two syllable words in which equal accent is placed on each syllable. These words, known as spondees, were developed at the Harvard Psycho-Acoustic Laboratory during World War II. Such words as *outlaw*, *armchair*, and *baseball* are representative of this type of test. From the patient's point of view these words are easily understood and the speech reception score obtained from this test can be duplicated with considerable accuracy in re-test situations.

Discrimination, on the other hand, is tested by one syllable words which have been carefully selected on the basis of their sound composition. Each list of fifty such words contain the speech sounds of the English language in approximately the same ratio or proportion

* This is commonly called the articulation score. The authors feel that the term articulation is less accurate and less descriptive than discrimination.

that they occur in oral discourse.* These are known as the Pb's or phonetically balanced lists. If only a single list of fifty Pb words is presented to the patient, the discrimination score in terms of per cent is obtained by multiplying the number of words the patient repeated correctly by two. Such words as *an, yard, came, us, day* and *toe*, taken from one of the lists represent this type of test.

Diagnosis

It is not possible to discuss the diagnosis of hearing loss fully in the space available. Generalizations will necessarily have to be made in order that the material may be presented in a brief and succinct manner. The reader must keep in mind that generalizations are usually hazardous and that there will be exceptions to many of the statements presented below. It shall be our purpose to present some of the diagnostic indications characteristic of first, conduction, and secondly, perceptive hearing loss.

Indications of Conductive Hearing Loss:

1. The individual hears well over a telephone.

2. He hears better in noisy than in quiet surroundings.

3. His pure tone audiogram usually shows a greater loss for low frequencies than high, or a loss substantially the same both for high and low frequencies.†

4. He has relatively normal bone conduction, that is, sound conducted through the skull is readily heard. In fact, in certain types of conductive hearing loss, the bone conduction may be prolonged, that is, better than normal.

5. He usually has a wide range of comfortable loudness. This implies that as a rule he can hear sound when it is presented both quietly and at reasonably loud levels above his threshold without difficulty or discomfort. This also implies that he customarily does not have a tolerance problem, although occasionally people suffering from an active ear infection may not be able to tolerate extremely loud noises without being disturbed.

6. He may have had a history of middle ear infection as a child.

7. He may show scarred or retracted drums or even a perforation of the tympanic membrane.

8. If the loss is unilateral, or at least more serious in one ear than the other, a pure tone of 250 or 500 cycles presented by bone conduction will lateralize to the poorer ear (Weber test).

9. A pure tone of low frequency presented by bone conduction does not sound appreciably louder to the patient when the ear is occluded man when it is unoccluded (Bing test).

10. Because the patient's inner ear is intact, he has good discrimination for speech sounds.

11. Since it is necessary to simply override his hearing loss by amplification, the conductive loss case uses a hearing aid exceedingly well.

12. Complete loss of hearing will never result from a conductive hearing loss. As a matter of fact, the maximum loss which will occur as long as the obstruction or damage lies in the external or middle ear is 60 to 65 decibels.

13. The conductive loss ear will show no recruitment.††

Otosclerosis. In general the otosclerotic patient will present the same clinical picture as

* The Pb words actually were standardized by determining the ratio of sounds appearing in written rather than oral communication in the English language.

† An exception to this rule may be found in children with closed eustachian tubes. These children often present an audiogram which shows a mild hearing loss in the higher frequencies.

†† Recruitment may be defined as an acceleration in the sensation of loudness which is disproportionately greater for a given intensity increase above threshold in the damaged ear than in the normal hearing ear. Thus a 2000 or 4000 cycle tone of 15 db. above threshold may sound quite loud to the recruiting ear whereas a similar tone of the same intensity would not appear at all loud to the normal ear. Since ears with conductive hearing loss behave similarly to normal ears once the sound stimulus is made sufficiently intense to overcome the hearing loss, recruitment does not occur in this type of hearing loss.

above. These are certain exceptions, however, which must be mentioned.

1. The patient may have no history of middle ear infection.

2. There may be a history of familial deafness.

3. He will often present a history of gradual hearing loss beginning in early adulthood.

4. The patient may not be able to hear a 64 cycle tone by air conduction.

5. His bone conduction curve will, on the average, show a dip of about 15 lb. at 2000 cycles. This dip or depression of the curve most frequently begins at 500 cycles where a loss of approximately 5 db. may be recorded. The depression usually deepens to 10 db. at 1000 cycles, reaches a maximum at 2000 cycles and rises again to 5 db. at 4000 cycles. This depression in the bone conduction curve is called Carhart's notch and has been thought to be strictly a diagnostic indication of otosclerosis. It has been noted more recently, however, that some patients with perforations of the drum present a quite similar bone conduction picture.

Indications of Perceptive Hearing Loss. The patient with perceptive loss usually demonstrates the following characteristics:

1. He doesn't hear well over the phone.

2. He hears better in quiet than in noisy surroundings.

3. His audiogram usually shows a greater loss in the high than in the low frequencies.

4. His bone conduction loss approximates his loss by air conduction.

5. He often has a narrowed range of comfortable loudness.

6. He may suffer from a tolerance problem.

7. He may not have any history of earaches, although the fact that a patient suffers a perceptive loss does not preclude his having had middle ear infection.

8. According to the Weber test, pure tone will lateralize to the better ear in perceptive loss.

9. A low frequency tone presented to the patient by bone conduction, sounds louder when the ear is occluded than when unoccluded.

10. His ability to discriminate sounds is usually impaired.

11. The person with perceptive involvement may have difficulty in using a hearing aid satisfactorily, and

12. Perceptive losses can be profound or even total.

Thus, in general, it may be said that patient's having perceptive type hearing loss show characteristics usually quite opposite to those enumerated for conductive loss. However, since perceptive hearing loss is of two types, cochlear and retro-cochlear, a distinction must be made between the behavior of these two types of nerve involvement, particularly relative to recruitment.

The evidence now seems to be rather conclusive that only cochlear type perceptive involvements demonstrate recruitment. Thus, patients suffering from traumatic hearing loss or Ménière's disease which are of this type, invariably show recruitment. The picture is not as yet clear relative to presbyacousia (hearing loss in old age) since some of these oldsters have recruitment while others do not. It has been thought generally that their loss has been primarily due to cochlear degeneration, but additional research will be necessary to make the facts clear with this group.

On the other hand, it is generally concluded that persons with retrolabyrinthine involvements do not show recruitment. If this is true, and as stated, present research results indicate that it is, the presence of absence of recruitment may be a most valuable diagnostic tool in confirming the location of the lesion and in so doing, may point up the possibility or lack of possibility of a brain tumor.

The Future of Audiology

Much remains to be done in the field of audiology. Present testing procedures are being refined and new tests developed which will undoubtedly yield additional valuable diagnostic information. Certain broad areas of

study lend themselves readily to further research. It has been emphasized that noise can be a serious threat to hearing. It is thought, although perhaps not yet adequately proven, that some individuals are noise susceptible and that noise presents a considerably greater hazard to these people than to other individuals who seem to have considerable resistance to trauma. As yet, however, we do not know how to determine which individuals belong to what group. This is obviously important, not only to the persons concerned, but also to employers who must assume some responsibility for the health of their employees. Research in the area of noise, then, is being and will be pursued diligently in the future.

Another large area of investigation must be in the area of psychogenic hearing involvement. Although tests for non-organic hearing loss are conducted in every good hearing clinic in the country, there is, as yet, no reliable method of separating individuals who are malingering from those whose hearing loss may be attributed, at least in part, to a psychogenic disorder. Although it can be argued that any person who willfully falsifies his test observations for monetary compensation or any other reason, is suffering a personality deviation, the true difference between the malingerer and the individual suffering from a psychogenic hearing loss is much more deep seated. The malingerer is, at all times, conscious of his actions, while the person suffering a true psychogenic hearing loss is not. The reward for the malingerer is a superficial one, while the hearing loss for the psychogenic satisfies a deep psychological need of some kind. This latter group, therefore needs psychological and psychiatric help, but until they can be isolated with certainty from the remainder of the functional group, many of them will not receive the type of therapy necessary for their improvement.

There are other pressing areas for investigation such as geriatric audiology, auditory perception, and speech reading which will occupy the researcher in the future, but space does not permit their discussion here. Suffice it to say that the next few years will see further remarkable progress in the field of audiology.

In Oklahoma, 3% of all school children in the elementary schools have hearing losses. In a state with eight to nine hundred thousand children of elementary school age, this means that every doctor in general practice in the state is going to see a good many of these children each year. The diagnosis he makes, the medical treatment he administers, and the advice he gives the parents will have tremendous influence on the future welfare of a child. Further, since it is known that approximately 25% of all hard of hearing children repeat a grade at least once in the public schools, early medical intervention can save the state thousands of dollars in the annual cost of public school instruction. The physician is in an enviable position in that it is to him that children and adults alike most often come to seek help and advice relative to their hearing problems. The ultimate success, therefore, of a complete and successful audiological program must rest, in any part, upon the knowledge and competence of the doctor in general practice.

Summary

This article has presented some of the basic aspects of audiology. The term audiology was defined and the types and causes of hearing loss enumerated. Special attention was paid to pure tone testing and the use of the audiometer as well as the administration of speech reception and discrimination tests. Certain diagnostic indications and characteristics of conductive and perceptive hearing were mentioned and described. The importance of the physician in the audiological picture was emphasized.

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Oklahoma School of Medicine

Hyperimmunization of Man

"The effect of hyperimmunization of the human subject has been studied in a group of 99 men employed in laboratories handling many pathogenic bacterial, viral and rickettsial agents. The men studied had been immunized prophylactically over a period of 7 to 13 years with a variety of antigens, receiving a total of 35 to 75 ml. of material.

Clinical evaluation of the immunized men revealed no unusual incidence of illness among the group.

Laboratory examinations of the subjects included urinalysis, hemogram, chest x-ray, electrocardiogram, studies of hepatic and renal function, and serum electrophoretic analysis.

Three abnormalities were found in high incidence among these hyperimmunized persons:

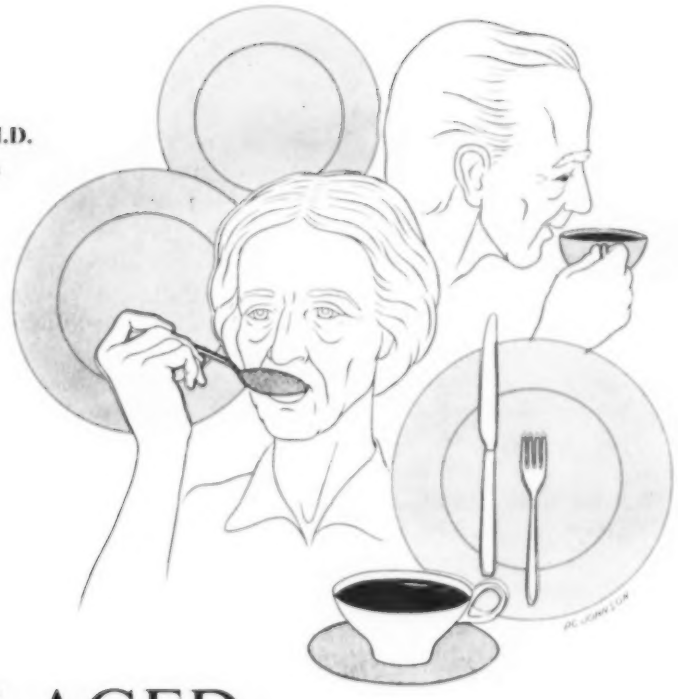
1) lymphocytosis, 2) abnormal liver function tests, and 3) a peculiar aberration of electrophoretic pattern characterized by poor separation of the beta- and alpha- 2-globulin fractions.

Similar abnormalities of electrophoretic pattern have been described in cases of amyloidosis, drug-hypersensitivity, and a series of hyperimmunized human beings reported by Kuhns.

These abnormalities, plus the large body of evidence on the production of amyloidosis in laboratory animals by repeated injection of foreign materials, suggest that hyperimmunization of man might have untoward effects."

J. L. GAMBLE, JR., A. P. GROLLMAN and A. GROLLMAN
Bulletin of the Johns Hopkins Hospital

NATHANIEL G. BERK, M.D.
Philadelphia, Pennsylvania



DIET FOR THE AGED

In general, the principles of nutrition in the aged vary little from those applied to the population as a whole. However, the aging process, being one of decreasing reserves, brings with it change. The changes are anatomical and physiological, modified by the previous incidence of disease, trauma, heritage, social adjustments, and economy.

For example kidney function, and particularly its concentrating ability, has a conserving effect on the need for water. In the aged, because of failing tubular work against osmolarity, the minimal excretory volume for the individual's concentrating power is higher than in young people. Therefore, it is advisable to increase the water intake to insure a urinary output of at least fifteen hundred cubic centimeters per twenty-four hours.

Nutritional requirements in the aged consist of the basic food substances, water, salts, proteins, carbohydrates, fat and vitamins. The most obvious nutritional defect to be corrected in the aged is caloric imbalance. Overnutrition hastens the development of pathological change. Undernutrition lessens an aged person's vigor and sense of well being. Body weight is the best guide to adequate caloric intake. Basal heat production per day ranges from fourteen hundred to eighteen hundred calories. Physical activity will require additional caloric intake depending on its degree. Gradual weight reduction in the obese is essential. Body weight in the aged may be maintained on an average of fifteen hundred calories for the female and two thousand calories for the male. Caloric restriction does not interfere with nitrogen balance. Protein repletion can occur despite calo-

From the Department of Medicine, Hahnemann Medical School, Philadelphia, Pennsylvania.

ric restriction, the energy requirements being satisfied by endogenous fat sources in the obese.

Protein Requirements The minimal dietary requirement of protein is accepted as one gram per kilo of body weight. It is now recognized that there is a constant need for protein because of the constant destruction and loss of body protein in the aged. Negative nitrogen balance is very common in the aged. Investigators have found that the greater percentage of their selected aged patients failed to achieve nitrogen balance on even two grams per kilogram of body weight. One, two, or more grams of protein per kilo of body weight in the form of lean meat, lean fish, fowl, milk, cheese, the white of egg, is the desirable objective. Food supplements in the form of hydrolyzed or predigested proteins added to milk or water or soup or cereals have been a very acceptable and readily digestible protein supplementation.

Fat Requirements The controversy concerning the significance of fat content in the diet and the relationship of plasma levels of cholesterol and lipids to atherosclerosis, calls attention to the fat requirements in the diet. Epidemiological studies suggest that where there is a higher level of cholesterol in the blood, there is a tendency to early and severe atherosclerosis. Where there is severe atherosclerosis there is a high incidence of coronary heart disease. The experimental reproduction of atherosclerosis in the laboratory animal has been accomplished by high fat and high cholesterol feedings. There are many indications therefore, for limitation of total fat intake. The optimum level of fat in the diet, as suggested by the food and nutrition board of the National Research Council, is in the order of twenty to twenty-five percent of the total caloric intake. This, for a total intake of fifteen hundred calories, is roughly thirty-five to forty grams of fat per day. Other workers have decreased the intake to twenty-five to forty grams of fat per day.

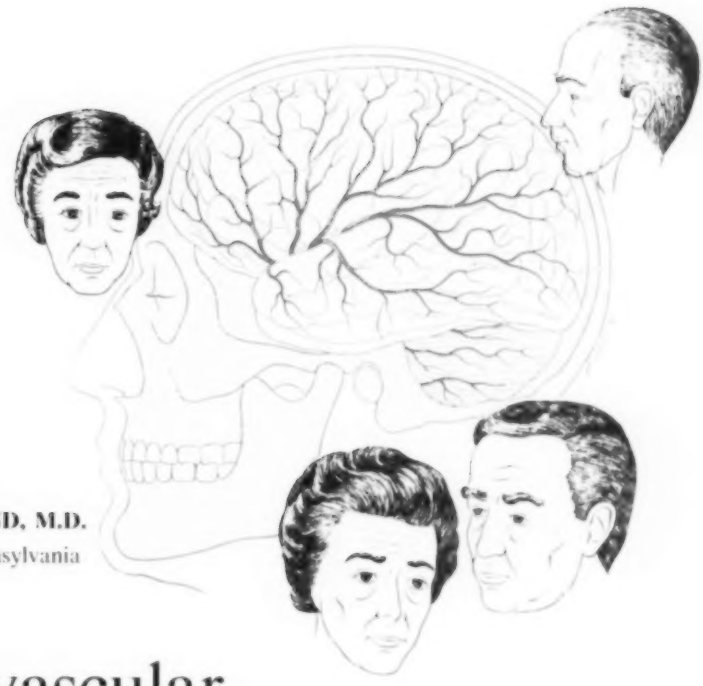
Carbohydrate Requirements Carbohydrate is fuel material, indispensable for muscular activity, cardiac muscle energy, and is the chief source of energy. Carbohydrate serves as a protein sparing and anti-ketogenic agent. Carbohydrates must be supplied in a quantity adequate to provide all of the calories necessary to maintain body weight above those calories which are supplied by proteins and fat.

The aged may require an extra quantity of vitamins. There is a tendency to low blood levels and low excretions of vitamins. The characteristic picture of deficiency disease is not common. The more subtle and preclinical stages of deficiency are, however, very common. The role of these food accessories in normal nutrition is a matter of record. Vitamin supplements, therefore, in the form of special preparations should be part of any well planned nutritional regimen for the aged.

Mineral Requirements Mineral requirements are not diminished because of age. Indeed, iron and calcium are most apt to be deficient in the older age group. An increasing incidence of achlorhydria is often associated with chronic iron deficiency anemia. The average iron requirement in the adult is in the order of fifteen megs. per twenty-four hours.

Tea, coffee, and alcohol need a word of discussion. The mild stimulating effects of caffeine are not harmful. Alcohol as a vasodilating substance, as a stimulant for the appetite, or as a relaxing agent has been of proven merit. The moderate and judicious use of whiskey or other alcoholic beverages is therefore useful in the nutritional care of the aged.

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Cerebrovascular Accidents in Elderly Patients

Cerebral vascular lesions are the most common cause of general or focal brain disturbances and are found in about twenty-five percent of routine autopsies in a general hospital. They occur at any age, but intracerebral hemorrhage and encephalomalacia due to thrombosis of a cerebral artery are rare occurrences before the age of forty. The highest incidence of cerebral hemorrhage is in the fifth to eighth decades, whereas cerebral thrombosis occurs most often in the sixth to eighth decades.[1] The patient recovering from a cerebral vascular accident constitutes a major problem in chronic care and rehabilitation. Furthermore, the number of these stroke victims is increasing as more people are living to old age.

For generations, medical students have been taught that cerebral thrombosis, embolus, and hemorrhage are the cause of apoplexy. Within recent years, the concept of cerebral vascular insufficiency has been formulated.[2]

Cerebral vascular insufficiency or hypotension in the cerebrovascular tree may be caused by hemorrhagic shock, anti-hypertensive drugs, anesthetics, the carotid sinus syndrome, sympathectomy, traumatic shock, cardiac surgery, cardiac arrhythmias, congestive heart failure, Stokes-Adams syndrome, myocardial infarction, and slow, progressive occlusion of the carotid and basilar arteries.[3]

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In the elderly patient, with the possible exception of those instances resulting from cerebral embolism, arteriosclerosis is the common cause of apoplexy. From the standpoint of treatment, it is more important to determine whether the lesion is a thrombosis, a hemorrhage, or an embolus than to know its exact location. Indeed, immediate treatment frequently influences the outcome of the case.

Cerebral Thrombosis

It is now generally conceded that, in practically all patients, cerebral thrombosis results from a lowering of the general circulatory efficiency in individuals with cerebral arteriosclerosis. Many instances have been reported in which severe shock or myocardial infarction due to coronary occlusion were followed almost immediately by cerebral thrombosis. Indeed, the symptoms of the "paralytic stroke" may overshadow those referable to the heart, and, as a result, the coronary occlusion may be unrecognized for some time. Cerebral thrombosis is more common than cerebral hemorrhage, occurring in the approximate ratio of three to one. The acute symptoms of thrombosis may be caused by a single large thrombus or from small ones which tend to occur repeatedly and in various scattered areas of the brain.

Although the presence or absence of hypertension is not of great importance in differentiating between cerebral thrombosis and hemorrhage, in general, a thrombus tends to form while the patient is at rest or during sleep. If a large vessel such as the middle cerebral artery is occluded, the patient not infrequently awakens in the morning with weakness or paralysis of one side of the body. He is unaware of the paralysis and on attempting to arise may fall to the floor. As a general rule, loss of consciousness does not occur at the onset. In fact, it may not be lost at any time during the illness. Frequently, fleeting symptoms may occur for days or even weeks before the complete occlusion of the vessel develops in the nature of paresthesia of the face or extremities on one side of the body, transient weakness of a limb, or attacks of aphasia. These cases with premonitory symptoms afford good opportunity for preventive treatment.

Cerebral Hemorrhage

As noted previously, intracerebral hemorrhage occurs most often during the fifth to eighth decades. The most common cause is arteriosclerosis. Usually, the hemorrhage is preceded by stress of some sort, such as heavy lifting, straining at stool, or a severe coughing spell.

Any part of the cerebrum may be the site of hemorrhage, but the region of the basal ganglia is most commonly affected. If the hemorrhage is small, it may become encapsulated, and, in time, a cystic cavity may form. A large hemorrhage may occupy practically all of one cerebral hemisphere. Rupture into the ventricular system may occur with an extensive hemorrhage, causing death in several hours. Sudden death from intracerebral hemorrhage, however, is extremely unlikely. In the usual case, the onset of the stroke is sudden. The patient may complain of intense headache followed in a matter of minutes by collapse and loss of consciousness. The face is flushed, breathing is stertorous, and the pulse is full and bounding. Occasionally, the patient is in shock with a weak, rapid pulse. There is a rapid fall in blood pressure. The usual signs of a flaccid hemiplegia appear early. Bilateral Babinski signs are not uncommon soon after the onset because of the increased intracranial pressure. If intraventricular rupture occurs, coma deepens, and signs of meningeal irritation with nuchal rigidity and Kernig's sign develop rapidly. In such instances, spinal tap reveals grossly bloody spinal fluid under pronounced pressure. If the hemorrhage has not ruptured into the ventricles or the subarachnoid space, spinal tap may either be clear or show a slight amount of blood or a xanthochromic tinge in the spinal fluid.

Cerebral Embolism

This type of cerebral vascular accident may occur in any age group, but the greatest incidence is in the fifth and sixth decades. In

middle-aged or elderly people, embolism is frequently associated with coronary thrombosis or auricular fibrillation. The symptoms are even more rapid in onset than those following intracerebral hemorrhage. In addition to a flaccid hemiplegia, there is usually clinical evidence of shock. The symptoms of embolism may simulate hemorrhage so closely that differentiation between the two is practically impossible. Convulsions may occur during the course of any cerebral vascular accident. However, they occur more frequently at the onset of embolism than with the other forms. Generalized seizures are more common than focal fits.

Multiple Vascular Lesions

Fleeting, transient cerebral symptoms are common in the older age group. These brief attacks may be characterized simply by vertigo, confusion, and memory disturbances. Repeated episodes of asphasia may occur. In other instances, weakness of an extremity or one side of the body may be experienced and last from a few minutes to a half hour or so.

It seems probable that the basic pathology is thrombosis of small arteries or arterioles previously narrowed by arteriosclerosis. In some cases, the transitory cerebral symptoms are caused by chronic thrombosis of the internal carotid artery or of the basilar artery. When either of these vessels is suddenly occluded, the result is usually a severe and rapidly fatal coma. More gradual stenosis, on the other hand, produces a state of episodic insufficiency in the circle of Willis which is responsible for recurrent attacks of paralysis, aphasia, and so forth. When the transient disturbance is in the nature of numbness and weakness of one side of the body with or without dysphasia, slow occlusion of the contralateral internal carotid or middle cerebral artery is to be suspected.

When the fleeting incidents consist of dizziness, blurred vision or actual blindness, extraocular muscle weakness, and paresthesia and weakness of the limbs, slow occlusion of the basilar artery must be suspected.[4]

The influence of the general systemic circulation in these little strokes should be emphasized. As noted before, occlusion of cerebral vessels by thrombosis commonly occurs during sleep and is not rare after surgery or during the vascular collapse of myocardial infarction.

In time, the classical signs of a major cerebral vascular accident develop in patients with a slow progressive thrombosis of a large cerebral artery. The repeated minor vascular accidents caused by occlusion of small vessels in both cerebral hemispheres eventuate in pseudobulbar palsy. The patient walks with a spastic gait and small shuffling steps and laughs and weeps on slight provocation. Dysphagia and dysarthria develop concomitantly. The deep tendon reflexes are all increased, and Babinski Toe signs are present bilaterally.

Treatment

In the acute stage, efficient, skillful nursing care is essential. Fluids may be given by mouth if the patient is conscious and able to swallow. However, parenteral fluids by vein or hypodermoclysis are usually necessary during the first few days after the stroke.

The bladder should be emptied by catheterization, if necessary, and cleansing enemas should be given every other day. Although there is the risk of infection, an indwelling catheter is usually necessary for a few days after a stroke. After the first two days, the indwelling catheter should be clamped off and released every two to four hours to prevent bladder contraction. If tidal drainage can be instituted, the risk of infection is reduced. However, if bladder infection does develop, the use of the sulfonamide Gantrisin® (sulfisoxazole) is advocated because of its relatively low renal toxicity and because it can be given by mouth or stomach tube.

The patient's position in bed should be changed every three or four hours to prevent the development of decubitus ulcers and hypostatic pneumonia. An adequate airway is of great importance. The use of suction to remove oral and nasal secretions must be resorted to frequently. As a general rule, the patient is

more comfortable and safer on his side, because spontaneous coughing occurs with less effort and the aspiration of mucus or vomitus into the tracheobronchial tree is less likely to occur. Many patients require oxygen therapy. This is best administered by mask or oxygen tent rather than by nasal catheter.

Sedatives should be used carefully and the opium derivatives avoided because of a depressant effect on the respiratory centers.

Some clinicians advocate prophylactic use of penicillin and the other antibiotics to prevent intercurrent infection. There may be some virtue to the routine use of these drugs in the comatose patient. On the other hand, the routine use of antibiotics in patients who are not comatose is untenable.

The increased intracranial pressure which occurs not infrequently with intracerebral hemorrhage may be reduced by spinal tap. In fact, this may be necessary as an early diagnostic procedure to aid in differentiating between hemorrhage and occlusion. The administration of 50 cc. of a fifty percent glucose solution by vein and eight ounces of twenty-five percent magnesium sulphate solution by rectum are also helpful in reducing increased intracranial pressure. Care should be taken to avoid excessive dehydration.

In cases of cerebral infarction caused by thrombosis or embolus, efforts are made to improve the cerebral circulation.

Vasodilating drugs, such as histamine, nicotinic acid, Priscoline,® and papaverine hydrochloride, may influence cerebral blood flow to a slight degree and merit consideration in the treatment of cerebral thrombosis and embolus. Papaverine hydrochloride has been found effective in doses varying from 4.5 to 18 grams a day in cases of embolization. Brain[3] recommends the intravenous injection of 100 mgs. of nicotinomide as early as possible in cases of cerebral embolus in the hope that the resulting vasodilatation may cause the embolus to move into a smaller artery.

In recent years, interest has been renewed in the use of the anticoagulant drugs in the treatment of cerebral infarction, particularly when due to cerebral embolism, and to prevent further embolization. Candidates for this type of therapy should not be hypertensive and should have no evidence of blood in the spinal fluid, either grossly or microscopically, in order to obviate the possibility of cerebral hemorrhage.

It is recommended that 75 mgs. of heparin in 50 cc. of normal saline solution be given intravenously during the first twenty-four hours and repeated every three to four hours as needed to keep the venous clotting time at approximately twenty minutes. Dicumarol® is also started on the first day with an initial dose of 200 mgs. Thereafter, daily prothrombin time estimations are done, and the dosage of Dicumarol is adjusted accordingly. In order to attain adequate anticoagulant effect, the prothrombin time should be maintained at approximately twenty-five percent of normal. Dicumarol is also being used in the treatment of intermittent insufficiency of the basilar and internal carotid arteries in an attempt to prevent progressive thrombosis in these vessels. The technic of administering the drug is essentially the same as that described for cerebral infarction. There is still insufficient evidence to conclude whether this form of therapy has any significant effect on the natural history of the intermittent insufficiency or the occlusion syndrome.

Cortisone has been used in the treatment of cerebral infarction. It has been postulated that the anti-inflammatory effect of the steroid retards the development of cerebral edema and limits the tissue response following occlusion of a cerebral artery.

There are dangers in the administration of this drug, particularly in patients with malignant hypertension and diabetes.

As soon as the patient has recovered from the shock of the cerebral vascular accident, massage and passive movement of the paralyzed limbs should be instituted. This aids in maintaining proper circulation in the paralyzed muscles and helps to prevent contractures and painful fixations of joints, particularly at the shoulder and wrist.

It is essential that the patient be encouraged to perform for himself such activities as washing, dressing, and feeding as early as possible. The first voluntary movements should be aided by simultaneous passive movements of the joints.

At the end of the first week or ten days, many patients are able to be helped into a sitting position at the side of the bed. If there is no cardiac complication, the patient may be allowed to stand momentarily by the tenth to fourteenth day. This is beneficial from a psychologic standpoint and hastens the return of postural sensibility.

Spasticity occurs in practically all hemiplegics and may be alleviated by neuromuscular relaxing drugs, massage, passive and active exercises and muscle training.

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"MEDICAL TEASERS"

A challenging crossword puzzle for the physician

page 63a

OSTEOARTHRITIS

Arthritis in the elderly patient is a treatable disease. It is not curable. Much of the success in treatment depends upon the willingness of the patient to accept some degree of symptomatic relief rather than to look for a complete remission. For these patients, present day therapy is successful, in that it is able to provide noticeable symptomatic improvement in most cases.

Osteoarthritis, also called senile or hypertrophic arthritis, is part of the aging process. Almost all individuals beyond middle age show some pathological evidence of the disease. It is a primary joint disease, with no systemic manifestations. By contrast, rheumatoid arthritis begins with a synovial reaction and carries definite systemic findings. In osteoarthritis, the joint involvement is the result of "wearing" of articular surfaces, with degeneration of cartilage and eburnation of opposing bony surfaces. With time, there is overgrowth of bone. Some of these changes may be brought on at an earlier age by trauma, recurrent dislocations, faulty joint alignments, marked obesity.

A diagnosis of osteoarthritis may be based on a number of factors:

(1) A history of joint symptoms following trauma.

(2) Symptomatology of pain and/or stiffness following exercise.

(3) X-ray evidence of narrowing of joint spaces with formation of osteophytes at lateral articular margins.

(4) With arthritis of the spine, symptoms of pain in a nerve root distribution. The exact site of involvement may be confirmed by x-ray. However, standard AP and lateral films often are of no value, other than perhaps showing ancillary involvement of marginal lipping and ligamentous calcification. More significant is involvement of the intervertebral foramina, through which the nerve roots pass. This is best shown in oblique views of the spine.

(5) Far advanced disease may show obvious joint enlargement. This is especially true if significant trauma has preceded the disease.

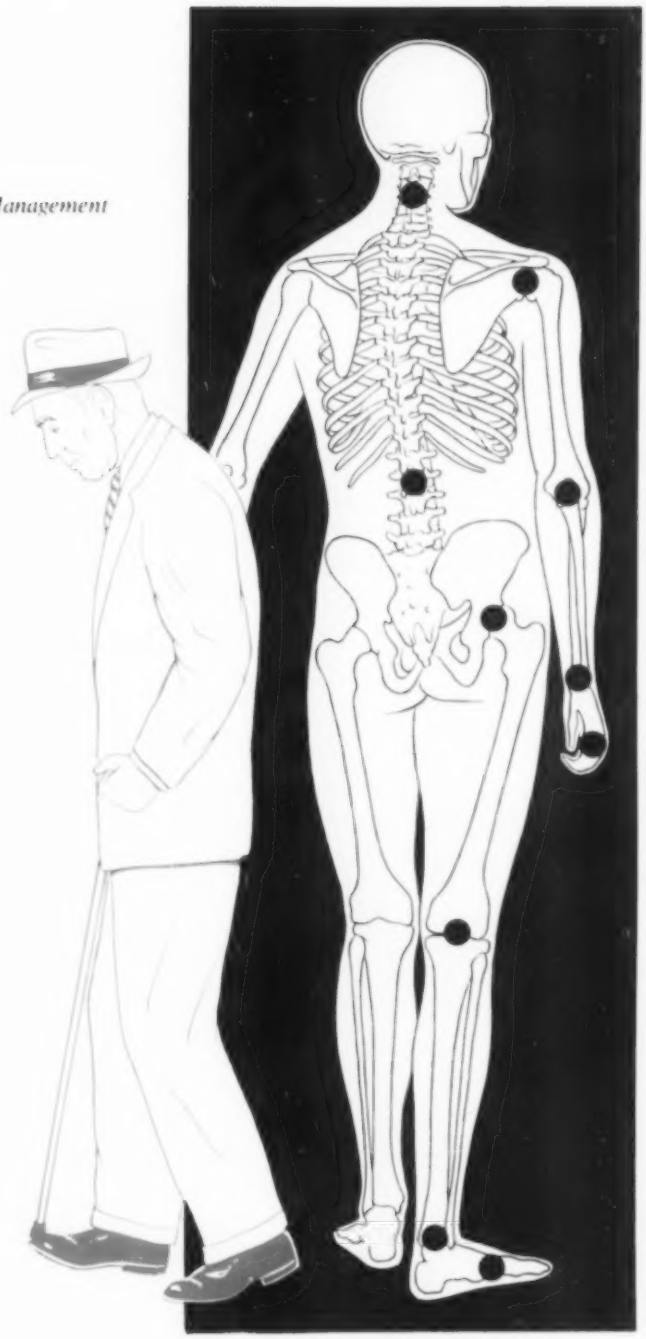
(6) Laboratory studies are of no value in the diagnosis. Blood counts and sedimentation rates remain unchanged. Laboratory aids in the diagnosis of rheumatoid arthritis such as the sheep cell agglutination test, latex agglutination reaction, and bentonite flocculation test, are uniformly negative.

Current therapy utilizes some time-honored methods and embraces the more modern concepts of steroid administration. These measures may include:

(1) *Dietary Management* There is no evidence that specific dietary factors play a role in the pathogenesis and symptomatology of this disease. Nevertheless, dietary measures constitute an important therapeutic factor. Many patients are overweight, carrying a further burden and added stress on already-damaged joints. The introduction of significant weight

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reduction often provides an important aid to the relief of symptoms.

(2) *Physical Therapy* Dietary management may not be sufficient to provide maximum symptomatic relief in many cases. Certainly, the period of weight reduction may be a prolonged one. To this therapeutic measure we may add elements of physical therapy. Often, a trained therapist is of great benefit in directing planned exercises.

(3) *Salicylates* In many instances, a dosage of six hundred mgms. every four hours will be effective in providing some symptomatic relief. A number of cases may be maintained on dietary restriction and salicylates alone.

(4) *Steroids*

(a) *Oral.* The administration of steroids by this route has been shown to be ineffective.

(b) *Intra-articular.* The concept of intra-articular injection of steroids has won a place in the therapeutic regimen for osteoarthritis. Most involved joints may be approached in this manner. The most accessible are the ankle, knee, elbow,

shoulder, and wrist. The hip joint, by the nature of the location of the acetabulum, is not as readily accessible, but may be approached by either the anterior or lateral aspect. Syringes and needles used in injections should be autoclaved. It is apparent from thousands of injections at the Philadelphia General Hospital and Hahnemann Hospital that this procedure is vital, since the incidence of joint suppuration from injections has been zero. This has not been the experience of other clinics using water sterilized syringes and needles, although the incidence of joint infections has been low. Most joints may be approached with a #21 gauge 1½ inch needle. For finger joints, a #22 or #23 gauge ½ inch needle is more satisfactory. For hip injections, spinal length needles are required. We recommend that the initial dose of hydrocortisone acetate or cortisone acetate be 25 or 50 mgm. With acetate suspensions of prednisone or prednisolone, the dose should be 12.5 or 25 mgm. The advantage of the latter two preparations may be in a reduced volume of injection fluid. Between them, little difference in clinical response has been encountered. To this solution in the syringe should be added an equal volume of one percent procaine hydrochloride.

This serves two purposes: to provide some immediate symptomatic relief, since steroid suspensions often show a lag period of twelve to twenty-four hours before providing a response, and, to alleviate symptoms of marked pain and swelling occasionally encountered within twenty-four hours following an intra-articular steroid injection.

The pattern of response varies with the individual patient. Most patients receive some relief for a few days after the initial injection. With repeated weekly injections, the period of relief tends to increase. In many cases, with continued therapy, injections may be given at progressively increasing intervals. Studies with patients serving as their own controls, and receiving a placebo injection or procaine hydrochloride alone, show that the presence of the steroid is necessary to symptomatic relief for more than twenty-four hours. Caution in this procedure is dictated by a number of considerations: the possibility of introduction of bacteria into a joint, the risk of accidental intravenous or intra-arterial injection and the injection of steroid into a tuberculous joint.

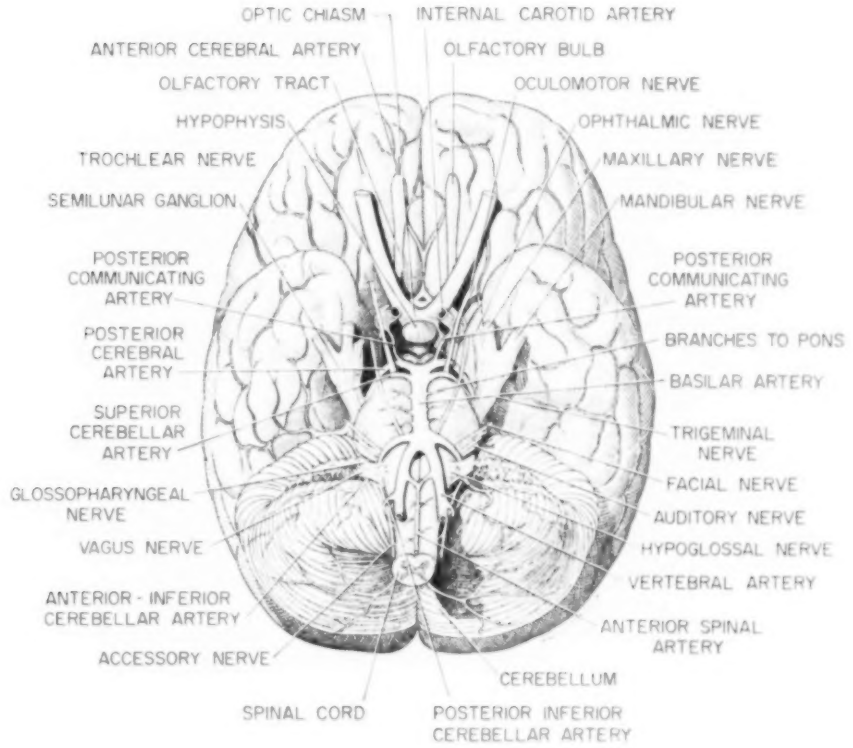
(c) *Paravertebral* Special consideration is given here to a new method recently proposed for treatment of osteoarthritis of the cervical spine. In the past, much reliance has been placed on methods employing traction and neck collars, both of which are cumbersome and often provide relief for only short periods of time. A locally injected steroid suspension in the cervical spine area cannot be intra-articular, since the articulations of the facets are not readily accessible to a needle, and most neck areas are replete with important blood vessels and nerves. Posteriorly, the spinal canal may be entered. As a result, it becomes necessary to deposit steroids near articular surfaces and intervertebral foramina, or paravertebrally. With this technique, the needle is not advanced into a foramen. To do so might be injurious to a nerve. Utilization of the postero-lateral approach entails passage of the needle through an area relatively devoid of major vessels and nerves, yet sufficiently lateral to avoid entrance into the spinal canal. This approach has proved to be safe, as evidenced by our lack of complications in more than one thousand injections.

This procedure has produced symptomatic relief in a majority of patients. Initially, hydrocortisone acetate and cortisone acetate were used. More recently, we have relied on prednisone or prednisolone acetate suspensions. In most cases, the relief of pain has not been dramatic with the first injection but has become significant after several injections. A number of patients have attained relief without the use of traction devices or collars; others have been removed from these devices. The usual pattern has been to repeat injections at weekly intervals until progressively fewer injections are required to maintain the patient asymptomatic.

Recognition of the psychological factors in

the treatment of osteoarthritis applies particularly to the treatment of cervical spine involvement. It seems probable that a "positive" form of therapy, such as an injection through the neck region, may have contributed to the dramatic response of a few patients who responded completely to only one or two injections. Control studies with one percent procaine hydrochloride alone, however, have shown that the act of injection itself does not produce the degree of symptomatic improvement attained with procaine-steroid suspensions. The lack of successful response in some patients may depend upon several factors: the psychological makeup of the patient, a far advanced stage of the disease, repeated trauma and faulty placement of injections. These cases also should be viewed with a differential diagnosis in mind, since a cervical disc syndrome often masquerades as cervical osteoarthritis.

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ANEMIA in the ELDERLY

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When investigating the cause of anemia in this age group, the importance of a detailed history and physical examination is paramount because anemia is often the first symptom of such conditions as chronic infection, gastrointestinal bleeding, malignancy, or malabsorption syndrome. Of course the diagnosis of the type of anemia is entirely dependent upon laboratory findings. For this reason, the physician should be familiar with the quality of the work from the laboratory to which he refers his patients. This point is of particular importance as the treatment of anemia calls for specific therapy and certainly Vitamin B_{12} would be of little value in an iron deficiency anemia. Much emphasis should be placed on the condemnation of the "shotgun" methods of therapy. These preparations are costly when compared to the specific medication and if per chance the diagnosis were in error, the patient could unwittingly be harmed.

The symptoms caused by anemia are quite protean in nature, the most frequent being complaints of weakness, fatigue and shortness of breath. One of the striking features presented by these patients is the physiologic adjustment that they exhibit. This occurs in patients whose anemia develops gradually over a period of several months and it is not unusual to see a patient with 5 grams of hemoglobin per 100 cc.'s of blood whose only symptoms are shortness of breath on exertion and a tendency to tire easily. Other symptoms that are suggestive of anemia are intermittent claudication, palpitation, increased sensitivity to cold and tinnitus.

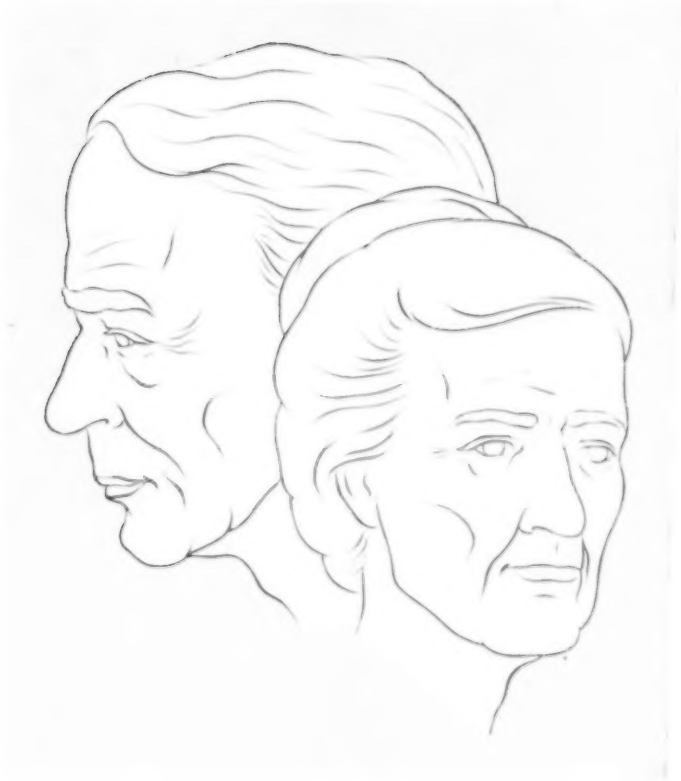
Anemia Associated with Malignancy

The anemia associated with malignancy is usually myelophthisic and is of the normocytic, normochromic type unless there is bleeding. Not infrequently malignant cells can be demonstrated in bone marrow aspirates. Occasionally, immature cells of the myeloid series and nucleated red cells are found in the peripheral blood.

This type of anemia is most commonly seen with malignancies of the breast, adrenals, lungs, thyroid and prostate since these are tumors that often metastasize to the bone. Its etiology is not entirely understood but there are prob-

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PATIENT



ably multiple factors involved such as decreased red cell life span and decreased adrenocortical activity. The only therapy for this type is correction or elimination of the primary process if possible.

Pernicious anemia is essentially a disease of older people. It is unusual before forty years of age and occurs with increasing frequency in the seventies. It is seen in both sexes with approximately equal frequency. This anemia is rare in the colored race, and is more or less unusual in orientals and Jewish people. Besides the anemia, one of the most important aspects of pernicious anemia is the neurological manifestations. Complaints which are referrable to neurological damage are often those of an inability to walk at night (loss of sense of position), and numbness and tingling of the extremities. There is frequently a pronounced disparity between the degree of anemia and of neurologic involvement. Another important aspect is the incidence of carcinoma of the stomach in this group of patients which is approximately three times that of the average population. This fact should be kept in mind and barium visualization of the upper gastrointestinal tract or cytologic studies of some type should probably be done at approximately six month intervals. The anemia is macrocytic and normochromic in type and peripheral blood films will often reveal macrocytic cells which are polychromatophilic and show basophilic stippling. Occasionally, nucleated red cells will be observed. Examinations of the bone marrow aspirate will reveal a typical megaloblastic marrow with a maturation defect in the erythroid series. Gastric analysis reveals the complete absence of free hydrochloric acid.

With the discovery of the Vitamin B_{12} (labeled with radioactive cobalt) test, pernicious anemia in remission can now be diagnosed without having to stop medication. The test depends upon the amount of radioactive cobalt excreted in the urine after an oral dose. The patient with pernicious anemia excretes about 2% or less in twenty-four hours in the urine whereas the normal patient excretes 7% to

22% in twenty-four hours. To rule out sprue (malabsorption syndrome) when there is 2% or less excretion, the labeled Vitamin B_{12} should be given with intrinsic factor which will result in a rise in excretion to normal levels in the patient with pernicious anemia. The patient with sprue (malabsorption syndrome) will show no increase in the amount excreted. The treatment of pernicious anemia consists of the intramuscular injection of Vitamin B_{12} (3000-5000 micrograms) and after remission has been achieved, a maintenance dose of somewhere between 1 and 2 micrograms per day should be administered. It is preferable to give the medication intramuscularly. This preparation is certainly much less expensive than the oral preparations which are combined with intrinsic factor.

Malabsorption Syndrome

The anemia associated with the malabsorption syndrome (sprue) is a macrocytic, normochromic anemia. This is a deficiency disease involving more than one system. Confirmation of the diagnosis is by demonstration of the small bowel disease with roentgenograms of the small intestine utilizing barium and by lack of augmentation of the absorption of Vitamin B_{12} with the addition of intrinsic factor as discussed under pernicious anemia. Here again, the therapy of the anemia is intramuscular Vitamin B_{12}.

Hypochromic Anemias

Whereas most people think of macrocytic normochromic anemia as being associated with liver disease or subtotal gastrectomy, actually hypochromic microcytic anemias are more common. The finding of a hypochromic normocytic or hypochromic microcytic anemia in the older age group is almost sure to be due to bleeding from one source or another and certainly the most common site is the gastrointestinal tract. The lesions that most frequently cause bleeding are carcinoma of the colon or stomach as well as ulceration of the stomach or duodenum. Other conditions that may bleed sufficiently to cause this type of anemia are ulcerative colitis, intestinal polyps, diverticulosis and hemorrhoids. Treatment of this type of anemia consists primarily of the removal of the cause of the anemia plus oral iron therapy. However, in some patients with ulcerative colitis, the iron will cause marked gastrointestinal irritation and in these instances intramuscular iron dextran complex should be used.

Anemias Associated with Infections and Renal Disease

The anemia associated with infectious diseases, chronic inflammatory states and renal disease are not well understood, but for the most part are normochromic and normocytic in type and seen only when the disease with which it is associated is rather obvious. The most frequent states with which this type of anemia is associated are infectious or inflammatory states such as bronchiectasis, rheumatoid arthritis and chronic renal disease. When associated with renal disease, there is usually a rather significant azotemia. Investigation as to the cause of this anemia reveals that there is a shortened red cell life span and inadequate bone marrow response.

Hemolytic Anemias

A complete discussion of the most common anemias should include the hemolytic types which as a rule are normochromic and normocytic. Except for that associated with leukemia and lymphoma, this type of anemia is unusual in the older age group. The diagnosis of a hemolytic state is confirmed by the finding of a reticulocytosis and normoblastic bone marrow. One of the most important tests is the hemolytic index as described by Miller et al. This is based on quantitative determination of fecal urobilinogen in comparison to the total red cell mass. Also the Cr_{51} red cell survival is very valuable. However, it is probably less reliable than the hemolytic index.

Therapy

The therapeutic agents necessary for the treatment of anemia are actually few in num-

ber. This is not because of expense or scarcity but only the lack of necessity for more agents. Actually, iron, folic acid, Vitamin B_{12}, and possibly, cobalt preparations are the primary agents necessary in the treatment of over ninety percent of the anemias. These preparations are effective if used as indicated, and only under rare circumstances, such as in the patient with pernicious anemia who has evidence of blood loss, need they be used in combination. Again, it should be emphasized that the so-called "shotgun" preparations are expensive, usually contain inadequate doses of hematinics and, on occasion, may cause more difficulty than the patient is already experiencing.

Iron is only required in the iron deficiency states as manifested by hypochromic and microcytic or hypochromic and normocytic anemias. Usually, in these patients, a low serum iron with a normal serum iron binding capacity is found. Certainly, many iron preparations for oral use are available today, and all are effective in treating iron deficiency anemias. The primary difference in these preparations is their likelihood of causing gastric irritation. The preparations contain ferrous salts, as it has been demonstrated that ferric ions are probably not absorbed across the intestinal mucosa. The salts that are available are ferrous sulfate, molybdenized ferrous sulfate, ferrous gluconate, and ferrous ammonium citrate. Of the first two salts, the usual dose is .3 gms. three times daily. It is usually best to give this after meals to lessen the possibility of gastric irritation. To obtain equivalent amounts of iron, larger doses of the latter two preparations must be used. Occasionally, a patient has a deficiency of hydrochloric acid, and the iron will be oxidized to the ferric state. In these individuals, it is often helpful to give the iron with 50 mgms. of ascorbic acid, which keeps it in a reduced state. An occasional patient will not be able to tolerate any of the oral preparations, and, in such cases, parenteral iron is indicated. Until recently, the iron preparations have been for intravenous use and have been associated with a significant number of reactions. However, there is at present an iron-dextran complex (Imferon®) available which can be used intramuscularly and is quite safe. Before using parenteral iron, it should be remembered that there is no normal pathway for excretion of iron. For this reason, it becomes necessary to calculate the amount of iron necessary to raise the hemoglobin deficit (normal minus the 100 cc. initial hemoglobin) using the factor 0.255.

The indications for folic acid therapy in this group are rather few and limited primarily to tropical sprue and megaloblastic nutritional anemia. The dose in these conditions varies from about 15 to 100 mgms. per day.

Vitamin B_{12} is indicated primarily in pernicious anemia but is also used in cases of sprue with excellent results. The dosage of the intramuscular preparation was considered earlier under the section on pernicious anemia. It is certainly preferable to the liver preparations, since it is less painful, less expensive, and associated with few, if any, side reactions. An oral preparation containing Vitamin B_{12} and the intrinsic factor (dessicated hog stomach) is available and is adequately absorbed. However, it is quite expensive and most patients prefer injections of B_{12}.

Also, mention should be made of the use of corticosteroids in hemolytic anemias. They are most effective in the type of anemia associated with chronic lymphatic leukemia. The dosage varies considerably between individuals, but practically all patients can be controlled on these preparations.

The use of transfusions for the correction of anemia has purposely been left until last, since they are indicated only in the face of severe anemia when life is endangered, when emergency surgery is indicated, or when there is no other method of raising the level of circulating hemoglobin. It should be remembered that with every transfusion, the possibility of serum hepatitis increases no matter how carefully donors are screened.

230 North Broad Street

Retroperitoneal Hemorrhage in Non–Penetrating Abdominal Trauma

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Any physician who has dealt with non-penetrating abdominal trauma has had occasion to see patients with retroperitoneal hematomas. Many times, the diagnosis becomes apparent only at exploratory laparotomy, undertaken for the repair of a possible injured viscus, or for the control of intraperitoneal bleeding. Despite its more than infrequent occurrence, little has appeared in medical literature about these hematomas, nor has there been any effort made to classify them as a clinical entity.

The retroperitoneal space is technically that area in the iliolumbar region which lies between the peritoneum and the posterior parietal wall of the abdominal cavity. The space contains a variable amout of areolar and fatty tissue. In the lumbar area it forms a bed for overlying viscera: the kidneys, adrenals, the ascending and descending colon, and the duodenum. It is traversed by the ureters, renal vessels, spermatic vessels in the male, and ovarian vessels in the female. The tissue is adjacent to the vena cava on the right, the aorta on the left. In its iliac portion are found the iliac vessels, ureters, genito-femoral nerves, spermatic or ovarian vessels, and the iliac lymph nodes.

The variety and abundance of the blood vessels and vascular viscera of the retroperitoneal space make it possible to visualize the ease with which direct trauma to the abdomen, or the shearing force caused by sudden deceleration can cause laceration of one or more of the vessels or organs. Since the areolo-fatty tissue is loose and presents little resistance, the blood readily diffuses throughout the retroperitoneal space. At the operating table this area has a thick, hemorrhagic, spongy appearance beneath the edematous peritoneal layer.

Clinically, the picture is similar to that seen in either intraperitoneal bleeding or visceral rupture. With penetrating abdominal trauma as in stab or gunshot wounds, exploratory laparotomy is mandatory so that the choice of treatment is no problem. In closed injuries, however, the decision as to surgical intervention is a difficult one since the time factor is of vital importance. The following five case records

From the Veterans Administration Hospital, Alexandria, Louisiana.

from our service will illustrate the problems involved in both diagnosis and treatment:

Case One

L.L.J., a 23-year-old colored male, had his chest and abdomen run over by the wheel of a truck when he was drunk. He was admitted about ten hours after injury. He was given emergency treatment at a private clinic and transferred to the Veterans Hospital for definitive measures. He had not voided since the injury, and complained of abdominal and thoracic soreness. His blood pressure was 140/90, temperature 100 degrees Fahrenheit (orally), pulse 100 per minute, respirations 20 per minute. Bilateral scleral edema and subconjunctival hemorrhage were present as well as submucosal bleeding in the sublingual area; there were tire tread marks and abrasions on his anterior chest wall with some tenderness over this region. Respirations were shallow but regular. His lungs were clear, however, to auscultation. His adbomen showed generalized guarding and tenderness, especially in both costovertebral angles. Intestinal sounds were sluggish. Slight distension and tympanites were present in the suprapubic area. A moderate secondary anemia with 3,900,000 erythrocytes per cubic millimeter, 9.05 grams of hemoglobin, and 31 volumes percent hematocrit, was present. His urine contained gross red blood cells and leukocytes. "Scout" films of the abdomen showed an increased amount of gas in the intestines than is usually seen. No free intraperitoneal air or fluid levels were noted. The tentative diagnoses made were: 1. Contusion of the kidneys with paralytic ileus; 2. Traumatic asphyxia. He was treated conservatively with gastric suction, indwelling catheter, and intravenous fluids. His recovery was slow but uneventful.

Comment: The anemia, the poorly localized abdominal signs, the bilaterial renal tenderness, the paralytic ileus and hematuria suggested the diagnosis of renal contusion with retroperitoneal hemorrhage. A diagnostic peritoneal tap should probably have been done to rule out hepatic or splenic bleeding.

Case Two

G.E.L., a 21-year-old airman, was injured when his car overturned shortly prior to admission. He complained of pain in the right side of his abdomen and right flank. He vomited some dark brown liquid material in the admitting room. His temperature was 101 degrees (Fahrenheit) orally, his pulse rate 130 per minute, respirations 35 per minute and his blood pressure 92/40. The patient was in mild shock and was slightly disoriented. His abdomen was slightly distended with a marked amount of voluntary guarding. There was tenderness in the right costovertebral angle with some generalized tympanites. Sluggish bowel sounds were heard at first, but within an hour his abdomen became completely silent. He was also tender over the crest of his right ilium and right wrist.

Laboratory Findings: Red blood cells 4,040,000, and leukocytes 29,850 per cubic millimeter; Hemoglobin 12.6 grams; Hematocrit 39 volumes percent; blood urea nitrogen 27.8 mg. percent. Catheterization yielded a small amount of grossly bloody urine. During the first twenty-four hours his urinary output was only 50 cubic centimeters.

A tentative diagnosis of contusion of the right kidney with retroperitoneal hemorrhage, paralytic ileus, and reflex anuria was made. He was treated conservatively with gastric suction and intravenous fluids. His urinary output was restored to normal after twenty-four hours and because of the marked improvement shown, exploratory surgery was deferred. On the third day, he developed a mild azotemia with a blood urea nitrogen value of 43.9 mg. percent. This later came down to normal levels. On the sixth day, a peritoneal tap yielded a small amount of fresh blood. He became slightly icteric with a serum bilirubin of 6.2 mg. percent and which eventually rose to 6.8 mg. percent before it receded to normal. Because of his progressive improvement, surgical intervention was not deemed necessary. He was also treated for closed fractures of his right ileum and radius and discharged in seventeen days.

Comment: This patient should have undergone

an exploratory laparotomy early in view of the strong suspicion of a liver injury. The azotemia was probably due to the temporary urinary supression and the elevated serum bilirubin to a laceration of the liver with intraperitoneal bile spillage. Because of the hematuria indicating renal damage and the paralytic ileus, retroperitoneal bleeding was presumed to have been a factor.

Case Three

E.D., a 57-year-old white male, was injured in an automobile accident five hours prior to admission. He was immediately taken to a private clinic where gross hematuria was observed. Rigidity was noted over the left side of his abdomen and tympanites over the liver area. On admission here, he complained of cramping pains in the left side of his abdomen at the umbilical level. He also exhibited gross hematuria. His temperature was 99 degrees Fahrenheit (orally), his pulse 98 per minute, respirations 18 per minute, and blood pressure 90/50. Examination of his abdomen revealed rigidity, tympanites, and tenderness with rebound pain over his left para-umbilical area. Peristaltic sounds were somewhat sluggish. His blood count showed 3,800,000 red blood cells per cubic mm., 10.5 grams hemoglobin, 35 volumes percent hematocrit, 14,600 white blood cells per cubic mm., with a 96 percent neutrophilia. A urinalysis revealed gross hematuria with a 2 plus albuminuria. "Scout" films of his abdomen revealed a generalized gaseous intestinal distention which was compatible with that seen in a paralytic ileus. Because of the localized abdominal signs which suggested visceral injury, laparotomy was done soon after the preliminary workup was completed. A massive retroperitoneal collection of blood was found particularly around the left kidney, with extension to the left mesocolic and mesenteric roots. A 3-centimeter laceration of the lower pole of the left kidney was found, together with about 300 cubic centimeters of blood in the peritoneal cavity. The laceration of the kidney was packed, a drain was placed retroperitoneally and brought out through a stab wound. Recovery was uneventful.

Comment: Most of the blood loss was retroperitoneal rather than intraperitoneal and probably accounted for his mild shock. This patient would probably have recovered without undergoing surgery.

Case Four

A.V.R., a 61-year-old white male hospital aide, was stricken with a sudden onset of severe left upper quadrant pains shortly prior to admission. There was no history of trauma except that five or six months previously, while lifting a rowboat, he stumbled and struck his left thoracolumbar area. His temperature was 98.6 degrees Fahrenheit (orally), pulse 68 per minute, respirations 20 per minute, blood pressure 129/90. His abdomen was soft except for some guarding in the left upper quadrant and the suggestion of a vague mass in that area. There was slight abdominal distention with depressed bowel sounds. There was some tenderness and rebound pain in the left upper quadrant. Laboratory findings were all within normal limits with his serum amylase at 96 units. An electrocardiogram, intravenous pyelogram, gall bladder and upper gastrointestinal series were all normal. An aotogram, done in an effort to rule out an aneurysm, was normal.

In view of the continued localized abdominal signs, exploratory laparotomy was done. A mass was palpable on the left. It was approached through the gastrocolic ligament, at which point a cystic, bluish structure presented just above the superior border of the pancreas, measuring eight to ten centimeters in diameter. Needle aspiration revealed a chocolate-colored fluid. After evacuation of about fifty cubic centimeters, it collapsed. It was drained through the lesser peritoneal sac. Recovery was uneventful and the patient has been asymptomatic for over a year.

Comment: If this retroperitoneal hematoma was related to the old injury, there is no explanation as to the delay in symptoms except that the hygroscopic nature of the fragmented protein fractions could have caused an en-

largement of the mass with increasing pressure against adjacent structures.

Case Five

J.F.W., a 70-year-old retired white male, was admitted for abdominal pains of five hours duration. Two days prior to admission, he was involved in a mild automobile accident during which the car in which he was riding collided with another. Each car was proceeding very slowly, at about five miles per hour. He did not recall any resulting bodily injury. Seven hours before admission, he became weak, dizzy, and fainted. On recovering consciousness, he became aware of severe, sharp pains in his left upper quadrant. Again, a history of bodily injury was not obtained. His temperature was 98 degrees Fahrenheit (orally), pulse rate 110 and respirations 20 per minute, his blood pressure was 95/55. His skin was cool, moist and pale. His abdomen revealed tenderness in the left upper and lower quadrants and in the left lumbar area. Bowel sounds were slightly sluggish. There were no rigidity and no palpable masses noted. His heart and lungs were normal on examination. A definite secondary anemia was present with 10.5 grams of hemoglobin and 30 volumes percent hematocrit. A mild leukocytosis of 10,000 cells per cubic mm. with an 80 percent neutrophilia was also evident. Urinalysis merely showed 8 to 10 white blood cells per cubic mm. Blood urea nitrogen was 22.8 mg. percent and blood creatinine 1.8 mg. percent. "Scout" radiographic films of his abdomen did not yield any information. Because of the bizarre history and clinical picture, a conservative therapeutic approach was attempted, using gastric suction through a nasogastric tube, intravenous fluids and blood replacement. He improved slowly, but still complained of abdominal pains. About six days following his admission, a large, hard, smooth tender mass became palpable in the left upper quadrant. A laparotomy two days later brought to light an extensive retroperitoneal hematoma involving the left kidney. This area was drained and the patient proceeded to recovery.

Comment: Diagnosis in this case was made difficult by the minimization of the accident by the patient, the slow development of the hematoma with a consequent paucity of signs and the absence of ileus and normal urinary findings.

Discussion

Five cases of retroperitoneal hematoma have been presented, and the problems in its diagnosis and treatment have been discussed.

Although retroperitoneal hematoma cannot be considered a clinical entity in non-penetrating abdominal injuries, its presence may be suspected if there is a partial or complete paralytic ileus, hematuria, oliguria or anuria, a secondary anemia with or without signs of shock, and vague abdominal signs and symptoms.

Roentgenologic "scout" films of the abdomen are useful merely to rule out perforation of hollow viscera and to indicate a paralytic ileus. An excretory urogram should be done in all suspected urological injuries to at least assure the presence and normal function of the contralateral kidney in the event that an operative procedure of the injured side becomes necessary. Catheterization may inform us as to the presence of urethral trauma. In addition, a retrograde cystogram could be done if further information as to bladder rupture is needed.

Paracentesis by needle aspiration may yield a clue as to whether the site of bleeding is intraperitoneal. If found negative, it may mean nothing, however. Aspiration should be attempted in both lower quadrants.

If diagnosis of retroperitoneal hematoma is made as distinguished from an intraperitoneal lesion, then surgery should not be done. If, however, it is found during the course of an exploration for abdominal trauma, nothing should be done for it specifically with the possible exception of drainage with a rubber tissue wick through a stab wound in the flank.

Veterans Administration Hospital

Unsaturated Fatty Acids, Blood Serum Cholesterol and Atherogenesis

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Up to about twenty-five years ago most degenerative diseases of the arterial branch of the vascular system have been designated under the heading of arteriosclerosis. During the last two or three decades a condition known as "atherosclerosis" began to be excluded from the designation of arteriosclerosis. The term atherosclerosis began to be limited to the disease process involving predominantly the subendothelial layer of the affected arterial vessel; the process may occasionally extend through the endothelial lining (intima) occasionally it may extend towards the medial layer, (through the elastica) but the locus of predilection is the region immediately below the endothelial lining.

The bases for the differentiation between the two processes are well-founded; whereas arteriosclerosis is found predominantly in elderly or geriatric patients, atherosclerosis occurs at any age; the former is as a rule associated with various degrees of hypertension, in the latter hypertension is the exception and not the rule; arteriosclerosis involves both sexes relatively to the same extent; atherosclerosis on the other hand occurs four to five times as often in males as in females up to the age of forty to forty-five. Only after the age of fifty to fifty-five years is there no sex predilection.[1]

Chemically and histologically cholesterol either in the form of crystals or in the form of esters is always present in the atheromatous lesion. Cholesterol is a normal constituent of the body tissues and fluids. Exogenously cholesterol is ingested with food, and endogenously, it is metabolized in the liver where some is stored and some is excreted into the circulatory system.[2] Many years ago the invariable presence of cholesterol in the atheroma led to the surmise that there may exist some relationship between the dietary intake of cholesterol as such as well as fats, which carry the cholesterol as a constituent of the lipoprotein molecule, and the development of atherosclerosis.

The apparent increase in mortality due to coronary atherosclerosis[3] observed during the last two decades, even though partly explainable by improved diagnostic procedures, by aging population, greater number of autopsies, improved vital statistics etc., served as an extra stimulus for research directed toward the problem of origin of atherosclerosis.

Findings

The findings seem to indicate that atheroma formation is the result of a number of causes and that age, sex, genetic makeup, (heredity) occupation, endocrine function and diet all play a significant role. Various authors differ as to which of these factors play the most significant role; some believe that the hereditary makeup of the given individual plays the most important role, and cite comprehensive and extensive clinical and research data in support

of their view. Others think that related endocrine anomalies of one or another type, such as insufficiency of the thyroid function,[15] abnormal function of the adrenals, the presence of diabetes mellitus,[16] of nephrosclerosis, etc. are the determining factors; still others cite data to indicate that diet per se, i.e. diet rich in animal fats, is the essential cause. From numerous studies of the epidemiologic significance of fat in cardiovascular disease of man, particularly atherosclerosis, there appears to exist a significant relationship between the ingestion of large amounts of fats and the incidence of cardiovascular disease.[4] There is some evidence that people who are lowest in the economic scale ingest the least amount of fat, have the lowest content of cholesterol in the blood serum and suffer the least from coronary thrombosis. It must be mentioned at this point, however, that most of the cholesterol in the body is synthesized endogenously in the liver and therefore the ingested exogenous cholesterol is not the only source of it in the body.

TABLE I MEAN CHOLESTEROL VALUES

NAME	AGE	SEX	BEFORE	AFTER
A. Z.	49	♀	341	322
B. D.	62	♂	350	254
A. T.	43	♂	390	312
F. A.	52	♀	303	279
A. A.	56	♀	312	300
A. M.	26	♂	262	275
M. L.	60	♀	331	330
A. B.	56	♀	350	254
I. P.	59	♂	296	290
H. E.	53	♀	312	239
A. D.	59	♀	321	303
B. S.	45	♂	288	275
C. C.	50	♂	300	290
E. B.	67	♀	296	290
A. F.	33	♂	271	240
A. I.	61	♂	262	262
C. F.	53	♀	296	290
H. P.	39	♂	279	280
M. F.	67	♂	303	300
I. C.	53	♀	288	271
M. K.	48	♀	361	350
E. D.	42	♂	331	270
J. K.	60	♂	330	325
E. S.	39	♂	341	315
M. G.	65	♂	285	300
M. I.	42	♂	381	385

Study begun November 1957 and terms noted April 1958

Recent Literature

The recent medical literature is replete with data which seem to indicate that a substitution in the diet of animal fat by fat of vegetable oils of the unsaturated type, particularly the kind where the degree of unsaturation is very pronounced, for instance, corn oil or sunflower oil, leads to a decrease of the blood serum cholesterol level and therefore lessens the possibility of atheroma deposition.[9, 5, 7] The rationale for the use of corn oil or sunflower oil is the presence of "sitosterols," substances which are very close chemical analogues of animal cholesterol, and which would be expected to "block" the cholesterol present not only in the diet but in the intestinal tract as well. It is assumed that the sitosterols block the absorption of cholesterol, by competing for enzyme mechanisms. Conceivably the sitosterol may form a 1:1 mixed crystal with the cholesterol, which is relatively insoluble and is therefore excreted by the intestinal tract. While at the same time the cholesterol is rendered comparatively unavailable for absorption, and in this manner the reabsorption of endogenous cholesterol secreted into the intestine is also interfered with.

In some literature reports a mixture of unsaturated fat and pyridoxine to be given three to four times daily, is advocated as therapy for hypercholesterolemia. The mixture is usually linoleic acid and pyridoxine. The basis for the use of pyridoxine is the finding, demonstrated by studies on monkeys, that a pyridoxine deficiency leads to a vascular injury which facilitates the deposition of athermatous plaques.

Since 1952, the author has been keenly interested in the problems of hypercholestero-

lemia, atherosclerosis, their relationship to myocardial infarction, sex, etc. Since 1953, I have studied the frequency of hypercholesterolemia on a random group of healthy subjects of both sexes and various ages. The results obtained were reported in the literature.[16] The findings were to me, rather striking in that in about twenty-five percent of the random group of over seven hundred individuals, a hypercholesterolemia was obtained. There was no demonstrable relationship between the blood serum cholesterol level and presence or absence of obesity.

Another Study

Somewhat later, in another study I found a definite relationship between the blood serum cholesterol level and the function of the thyroid gland. In about forty percent of the cases, hypothryroidism was associated with a hypercholesterolemia.

In still another study, reported in 1957, the effect of fat restriction in the diet was determined on a group of over thirty subjects.[17] It was found that fat restriction is followed by a lowering of the cholesterol in somewhat better than eighty percent of the cases.

There seemed to exist a linear relation between the level of the blood serum cholesterol and its decrease following the fat restriction. The higher the original level the more pronounced the fall. Only in rare instances, however, did the blood cholesterol reach normal values, assuming that values up to 225 mgms. per 100 c.c. of blood are normal.

The present report is based on a study of twenty-six subjects with various degrees of hypercholesterolemia, but all asymptomatic. The purpose was to determine to what extent if any, the blood serum cholesterol value could be reduced by both, restriction of gross animal fat in the diet and the administration three times daily of a preparation marketed by an ethical pharmaceutical concern and consisting of linoleic acid and pyridoxine. Each patient, in order to achieve full cooperation, was familiarized with the purpose of the study. The group consisted of eleven females and fifteen males, varying in age, from twenty-six to sixty-seven years. The values shown in the attached table are arithmetic means of three blood cholesterol determinations before and after the experiment was instituted. The study was instituted in November 1957 and terminated April 1958. Each patient received one ounce of the mixture in three divided doses p.c.; at intervals of six weeks a blood cholesterol was determined and as stated before the values in the table represent the arithmetic means.

Only in three patients a decrease of the cholesterol level by approximately twenty percent and in one by about ten percent was obtained; in the remaining twenty-two patients the change was so slight as to be of no significance.

Conclusions

One is constrained somewhat to draw conclusions from results obtained on such a small group of patients; nevertheless the results are in every case slanted in such a manner that it is difficult to assume that they might be different if the group was larger. From a previous study I know that the level of the blood serum cholesterol can be lowered in most cases by a limitation of the animal fat intake.[15] Apparently the addition of an unsaturated fatty acid to the diet contributes very little if anything to a further decrease of the blood serum chloesterol level. The theory that the sitosterols, chemical analogues of the cholesterol, compete for the enzyme systems in the cholesterol metabolism, is apparently not applicable to actual events. There is no doubt that a lowering of the blood cholesterol level is therapeutically desirable, since recent studies at Harvard headed by D. D. Rutstein have furnished direct evidence that increasing the cholesterol content of the blood serum containing medium enhances the deposition of lipid on human aorta cells. They have also shown that there is a linear relationship between the cholesterol content and lipoid deposition, suggesting thereby that clinically a decrease in the blood serum cholesterol level is a desirable goal to be striven for. To date,

judging by my own experience, a good deal can be achieved by limiting the fat intake. In cases where the hypercholesterolemia is associated with hypothyroidism the correction of the thyroid function has a markedly beneficial effect on the lipoid metabolism.

This study failed to reveal any beneficial influence from the use of mixture of linoleic acid and pyridoxine on the blood cholesterol level.

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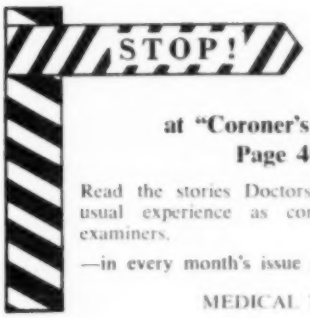
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JOHN J. FISHER, M.D.
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Office Management of

The course of pelvic inflammatory disease has been altered greatly during the past decade by the use of antibiotics and chemotherapeutic agents. Whether or not entirely as a result of these, our management of this condition has undergone much change, especially in the case of the chronic form of this disease. The acute instance of pelvic inflammation is still best treated by bedrest and other supportive measures, with surgical incision and drainage if localization in the cul-de-sac occurs. To these measures, of course, has been added heavy antibiotic therapy. We are not concerned with the acute disease in this paper, but rather with the patient with chronic pelvic inflammatory disease seen so often in the office of every practitioner of medicine.

The complaint that brings this patient to the office is pain. The pain is usually deep in the pelvis, occasionally in both lower quadrants, and often in the lower back region. It is usually aggravated by intercourse, excessive exertion, or even the appearance of the menstrual flow. It often follows an episode of minor illness such as influenza or the common cold. The more severe episodes of such pain require absenteeism from one's job. The intervals between bouts of such pain varies from a matter of weeks to that of many months. The character of pain may be anything from a chronic dull ache to that of severe, sharp, cramp-like distress. The duration of pain may be that of a few hours to that of many days or weeks. Whatever its characteristic, pain is the chief complaint that brings the patient with pelvic inflammatory disease to the physician's office.

The pain is often accompanied by other symptoms. One of the most frequent is an irregular menstruation. Although at times this menstrual irregularity may involve skipping of periods, it is more frequently characterized by bleeding more often than the regular interval, and heavier than the usual amount. Sometimes the bleeding is heavy enough to require transfusion, especially when superimposed upon a chronic anemia so common with these cases of chronic inflammation.

Another symptom commonly seen is vaginal

discharge. This is usually of a chronic nature and smear examination often will disclose nothing but many leukocytes in the suspension. It is not uncommon, however, to find superimposition of trichomonas upon the basic inflammatory discharge.

Minor symptoms often accompany the complaint of pain. A common one of these is infertility. Often these patients will relate of a pregnancy at a very youthful age, followed by a period during which no further pregnancy has been accomplished. With the increasing emphasis placed on infertility studies, this minor complaint is often what brings the patient first to the physician's office, her more severe

Pelvic Inflammatory Disease

complaints long ago having been adjusted to and accepted. Occasionally complaints referable to the urinary tract from a spread of this condition to that system will prompt the patient to seek medical attention.

It is often surprising to see a patient that one is certain has pelvic inflammatory disease in which even direct questioning fails to evoke a history of an acute episode. This is seen often enough to make one wonder whether those patients with an acute episode that prompts active management might fare better than the patient with the low-grade initial inflammatory attack. Be that as it may, it has been the author's experience to obtain a history of an acute episode pre-dating the chronic condition in only a minority of cases seen.

Diagnosis

The intelligent management of chronic pelvic inflammatory disease presupposes an accurate diagnosis. This diagnosis is made on the basis of history and pelvic examination. Laboratory confirmation is obtained only in those cases of acute exacerbation of the chronic condition and, even here, is often lacking in the results of the white blood count and erythrocyte sedimentation rate.

The history is as discussed above in regard to pain and other symptoms. These symptoms, especially in a patient of the environmental background so commonly seen in such cases, go a long way in establishing diagnosis.

The pelvic examination reveals a fixation of the cervix with what is described often as parametrial thickening with or without adnexal masses. In the acute exacerbation, there is tenderness on motion of the cervix. The cervix is almost always congested and shows a chronic cervicitis. When adnexal masses are palpable, they are commonly soft cystic masses that are difficult to outline definitively. In the case of acute exacerbation, often a firm abscessed mass is easily palpable.

Differential diagnosis consists of differentiating this condition from that of endometriosis, ectopic pregnancy, chronic pelvic congestion, and normal pelvis in a patient who has an emotional overlay. Often differentiation requires many office visits and long observation of the patient. The methods for differentiation between these conditions may be found in any standard textbook and need not concern us here.

The condition of chronic pelvic inflammatory disease and endometriosis are especially similar in their pelvic findings and in the age group in which they are seen. Since they both are characterized by pelvic pain, infertility, dysmenorrhea, and dyspareunia, differentiation often requires long observation and astute diagnostic ability.

These conditions are also similar in that the

amount of symptomatology does not necessarily parallel the extent of pelvic involvement found upon examination. Quite often a patient with extensive pelvic fixation and adnexal masses will voice little complaint in comparison to another patient with minimal pelvic changes and marked symptomatology. Both conditions may present a pelvis that varies in findings from one examination to another, although endometriosis is more likely the diagnosis when such is observed. Fortunately, the management of these conditions is somewhat similar, as will be pointed out later.

Management

The treatment of chronic pelvic inflammatory disease is one of the most highly individualized of all gynecologic conditions. Although many factors are to be considered in arriving at the course of management, principal ones are: age of patient, severity of symptomatology, degree of disability, and presence or absence of previous surgery.

Age of Patient: In few other conditions of the female pelvis in which surgery is to be considered as treatment, should youthfulness of the patient be a greater deterrent than in pelvic inflammatory disease. The principal reasons for this are several. First, a youthful patient is in better general condition to put up with her complaints, and should afford the physician a greater opportunity for expectant management. Second, in a young patient the disease is relatively new and has not had ample opportunity to burn itself low or out. Barring re-infection, many cases of pelvic inflammatory disease will ameliorate with expectant treatment. Expectancy is to be reckoned in months and years rather than in weeks and months. Third, so called conservative surgery in the young patient with pelvic inflammatory disease often aggravates the underlying condition and leads to repeated surgical therapy. We have all seen patients who have had several laparotomies before the age of thirty years, with little relief of symptomatology until the final hysterectomy is performed. There is always reason to wonder in such instances whether hysterectomy would have been necessary had the first attempt of "conservative" surgery been withheld completely. And finally, the natural resistance and ability to overcome infection is greater in a young patient and should be given full chance to manifest itself.

Arguing against expectancy in a young patient is the fact that these are the patients who are more likely to have frequent coitus. However, although inflammatory disease is aggravated by frequent intercourse, the patient can be instructed along lines of temperance in this respect and usually soon learns her limitations without requiring complete abstinence.

Severity of Symptomatology: This factor almost speaks for itself. Certainly in a patient with minor symptomatology, major surgery is not to be performed. The author often explains the risk of the operation, the expense involved, and the discomfort of the postoperative period to the patient, painting as foreboding a picture as possible within the confines of truth. Following this the patient is cautioned that should her severity of symptomatology exceed all the disadvantages attendant to major surgery, then surgery is to be considered. Should the risk and other disadvantages of major surgery outweigh the patient's symptomatology, then certainly surgery should not be performed. It is wise to explain to the patient that there is a variation in the degree of symptomatology to that of pelvic involvement, and that only the patient herself knows the amount of symptomatology from her pelvic condition. The patient is also cautioned that, especially in the younger group, should surgery be performed it would of necessity be conservative surgery consisting of enough to relieve the symptomatology but not any more than absolutely necessary. She is told that there is often repeat surgery necessary following the conservative surgical approach.

When the patient learns of such things, she is usually more reconciled to going along with the physician's recommendation of expectancy management.

Degree of Disability: Whereas degree of disability seems to be another way of discussing severity of symptomatology, the author has

separated this factor from the foregoing in order to place emphasis on this one symptom. By degree of disability is meant two things: disablement from performing her functions as a worker, whether in private employment or as a housewife and mother; and, disability as regards performing the marital function of intercourse.

If the patient has recurrent bouts of pelvic inflammatory disease which prevent her holding steady employment owing to repeated absenteeism, this is a strong factor urging active treatment. Likewise, when frequent bouts of her inflammatory disease prevent the patient from taking care of her family, and present an economic problem from the standpoint of requiring additional domestic help, this should be taken strongly into consideration in arriving at active management. The economics of time lost, medical attention required, and medication necessary are to be considered.

As regards disability from the marital function of intercourse, this is found especially in the younger age group. As this condition is most often seen in the lower educated groups where understanding on the part of the husband is not so likely obtained, disability from marital relationship is a serious one. Often a condition is encountered in which the patient's marriage is threatened by her inability to supply this function to her husband.

The author considers disability from performance of one's occupation whether employment or homemaking, together with disability from performance of the marital act the strongest of indications for surgical management. In the absence of these, severe symptomatology indeed must exist before surgery is indicated.

Condition of Previous Surgery: The presence or absence of previous surgical treatment in the history of the patient is a cardinal factor. In fact, if previous surgery has already been undertaken, decision whether or not to do surgery on the patient becomes decision of whether or not to do hysterectomy. The author has little regard for the operator who performs the initial surgery in a case of pelvic inflammatory disease for little indication; but, strongly condemns the operator who performs subsequent surgery on that same patient, yet leaving her uterus in with the possibility of a third laparotomy being necessitated. If the symptoms are sufficient to justify repeat surgery in this patient, they should be sufficient to justify total hysterectomy.

Supportive Management of Pelvic Inflammatory Disease

The supportive management of pelvic inflammatory disease begins with explanation to the patient of the nature of her illness and emphasis to her of the fact that the condition is usually a chronic one but practically never a fatal one. The author often explains to the patient that one only rarely dies directly or indirectly from pelvic inflammatory disease, but that it makes one miserable while living. At this time the patient is advised also that, should surgical management of her case be advised in the future elsewhere, she get several opinions on this before undergoing such treatment.

In explaining to the patient the nature of her illness it is especially important to stress that recurrences of the pelvic inflammatory disease usually follow intemperance in sexual matters or alcoholic intake. Bouts are also likely to follow any condition, whether it be an acute upper respiratory infection or over work and exhaustion on her part, that lowers the patient's resistance. She is advised that she has a chronic illness that will remain under control so long as her general health is maintained at a high level but which is likely to recur with the lowering of general resistance. She should at that time be instructed in good hygienic measures to be followed.

The benefits of heat therapy are next explained. The patient should be advised to take warm tub baths and warm douches. In the case of an acute exacerbation she is advised to take a warm douche upon arising, a warm tub bath after lunch followed by a nap, and another warm tub bath preceding bedtime.

In acute exacerbations, abstinence from alcohol and sexual relations are advised. If fever or secondary symptoms develop, sulfa is prescribed. The new long acting, low-dosage sul-

fonamides are excellent for such patients. Aspirin or some aspirin compound is prescribed for relief of discomfort.

It is important to stress to the patient that she has a chronic condition for which a therapeutic regime is necessary. This above regime should be gone over carefully with the patient, making certain that she understands each point. Having outlined the general principles of supportive therapy to her, the physician often will find that this patient will return at irregular intervals of several months to even more than a year between visits, the purpose of which visit often being primarily to receive reassurance by the physician and moral support to continue the supportive therapy.

It should be stressed that the average case of chronic pelvic inflammatory disease can be managed by the supportive measures outlined. Only the very exceptional case is severe enough to justify surgery.

There is the occasional instance of chronic pelvic inflammatory disease that is not the exacerbation of a single condition but rather recurrent new infections of pelvic inflammatory disease. This is usually in the young patient and the patient that has little stability in her background, economic or social. It is in this patient that the factor of loss of time from work is an important one. The patient needs surgical management to protect herself as well as to relieve her symptomatology. In this case, either bilateral salpingectomy or the Falk procedure is recommended. Even in this exceptional case, conservative measures should be tried at first, and the patient cautioned concerning the cause of her recurrent difficulties.

The physician who is successful in managing pelvic inflammatory disease by conservative supportive measures will be rewarded by satisfaction of knowing that the patient has been treated by the best, though not easiest means, and by the grateful appreciation of the patient. This last is especially true in patients who have previously been advised surgery as their therapy.

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AN EXERCISE IN DIAGNOSIS: *The Case Reports*

In addition to our regular quota of original articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 235-243. We recommend these studies as interesting and stimulating.

Atypical Gout and Hyperuricemia

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Gout is defined in Comroe's[1] text on arthritis as an hereditary disorder of uric acid metabolism occurring predominantly in males. It is usually characterized by hyperuricemia, acute and recurring attacks of very painful arthritis, by deposits of sodium urate crystals in articular, periarticular and subcutaneous tissues and, in later stages, by cardiovascular lesions and nephritis with urinary calculi. The clinical course is variable, and can be divided into stages based upon the frequency and severity of the attacks and upon the presence or absence of tophi. In the usual description of the disease, it is always noted that asymptomatic hyperuricemia or larval gout may be present for some time before acute arthritis occurs. In the last phase of the disease, usually ten years or longer after the initial attack, chronic gouty arthritis occurs with multiple joint involvement and tophaceous deposits. The hyperuricemia, which is found in the prearthritic phase and in many relatives of gouty subjects, may never be associated with any symptoms, and it is highly probable that many individuals with familial hyperuricemia may live a normal span of years without ever having any joint symptoms.

The purpose of this report is to attempt to show that some of the individuals with high levels of blood uric acid will actually have vague and nondescript symptoms which may be attributed to the hyperuricemia, or to other changes in gout, and that these patients will be aided by treatment directed toward lowering the blood uric acid.

Since the time of Hippocrates, it has been known that gout is very uncommon in women. It is well known that approximately ninety-five percent of gout occurs in the male. Claiborne[2] reported a case of a seventeen year-old girl with pretophaceous gout of three years' duration. Typical tophaceous gout has been reported in women, and Thomson[3] cautioned that gout may assume atypical forms in women, especially at the menopausal period, and may be overlooked because of its infrequency in the female. In his cases, gout occurred in a more chronic form in women, and resembled rheumatoid arthritis in a superficial way.

In this connection, it must be mentioned that the average plasma urate level in men is higher than that in women, both in the normal and in gouty individuals. Wolfson, et al.[4] have suggested that the difference depends on the differences in the excretory mechanism for urate.

Persons of all nationalities are subject to this disease. Cohen[5] has discussed the disease in the negro, and it has also been reported in the Chinese by Spitz et al.[6]

It is also the purpose of this report to show that atypical gout may occur in males in a fair proportion of instances with high levels of blood uric acid, and in these individuals, there may or may not be instances of more or less generalized joint symptoms similar to those discussed by Thomson[3] in his description of female subjects with gout past the menopause.

There are many reasons to doubt that uric acid per se is directly concerned with the symptoms of acute gout. Acute gouty arthritis does not occur in many patients with sustained high

uric acid values, such as are seen in leucemia or polycythemia. Furthermore, experiments reveal that uric acid administered orally, intravenously, or intra-articularly will not cause gouty symptoms in the normal or gouty subject. Moreover, acute gouty attacks occur in joints which do not show roentgen evidence of urate deposits. There may be no significant changes in the serum urate level or in the urinary content of uric acid preceding, during, or following acute gouty attacks. Recent studies using oscillometric and plethysmographic measurements of the extremities during acute gout attacks have shown a vascular disturbance as the local mechanism responsible for the severe pain. Wolfson and Robinson[7] have recorded striking amplitude increases with blood flow and oscillometer indices up to 600 percent of normal. After administration of ACTH, the vascular abnormalities rapidly return toward normal.

Mechanism of Hyperuricemia

The exact mechanism for the increased uric acid content of the blood, or the cause for the precipitation of sodium urate in the tissues of patients with this disease is unknown. Three possible causes for the hyperuricemia in the gouty individual have been advanced. The increased concentration is thought by some to be a result of increased formation; others consider the increase to be due to some abnormality in renal excretion, and still others think that the hyperuricemia is due to decreased destruction of uric acid.

In the blood, uric acid is present largely in the form of sodium urate; part of the uric acid is free, and part is in organic combination as demonstrated by Benedict.[8] Wolfson and Levine[9] suggest that a large part of the uric acid in the blood exists as polymeric urate complexes. Adlersberg et al.,[10] using ultrafiltration methods, reported the existence of a uric acid protein complex in the blood of normal subjects and of those with gout.

Since symptoms of gout cannot be correlated distinctly with the levels of blood uric acid and since it has not been proven that acute episodes of gouty arthritis are associated with urate deposition in joints, nor that variations in the degree of hyperuricemia bear any consistent or causal relation to acute attacks, numerous theories have been advanced to explain the exact role of uric acid or sodium urate, the end product of purine metabolism, in the etiology of the symptoms of this disease. Some workers feel that the disease may be produced by any of the changes causing an alteration in the chemistry of the tissues favoring precipitation of uric acid crystals. One of the theories proposes that the onset is marked by an increase of the joint fluid with a deposition of sodium urate crystals in the fluid. Still others have emphasized the role of allergy in gout. Nisse[11] has favored this latter theory.

Many patients have hyperuricemia without any family history or symptoms of gout. Some traumatic episode of local or general character precipitates the occurrence of acute symptoms. This would tend to disfavor the allergic role, and would tend to favor the role of increased joint fluid with precipitation of the crystals in and around the joint. Some of these individuals have minor trauma to a single joint, and acute gouty symptoms occur in this mildly traumatized part. Others do not have any localization or definitive symptoms due to the high uric acid content in the blood. But these subjects seem to have rather poor general health, and there are some vague reasons to suggest that this apparently unhealthy state could possibly be due to the results of hyperuricemia. In other words, the pathological state causes pathological reactions without localization, and other factors are generally sought to explain the abnormal symptoms.

Carriers of genetic hyperuricemia have normal values until puberty, if they are males, and until the menopause, if female. Wolfson and Cohn[12] suggested that a separate androgen mechanism regulates the transformation of latent inherited hyperuricemia to the manifest hyperuricemia which precedes gout. Decreased urinary 17-ketosteroid output has been found to be a constant finding in patients with gout. Wolfson et al.[13] emphasized this point and showed that low average output of ketosteroids

excretion occurs both during attacks of acute gouty arthritis and during asymptomatic interval gout. This latter evidence would emphasize the frequency of gout in the male, since urinary 17-ketosteroids are substances largely due to the metabolism of adrenocortical and testicular androgens.

Electrolyte Changes in Gout

Recently acquired information and studies of the mineral and water exchange associated with attacks of gout lead Talbott et al.[13] to consider gout a disturbance of the equilibrium of the body more widespread than a dysfunction of uric acid metabolism alone. Marked diuresis may often precede clinical attacks, and with this loss of water, there occurs an increased excretion of sodium, potassium, calcium, chloride and phosphate. The same group observed an increase in body weight on the days of increased urinary output.

The case reports which are presented in this discussion would tend to show that with hyperuricemia, episodes with or without vague joint complaints may occur, and may well be attributed to electrolyte imbalance in some way connected with the hyperuricemia and without the occurrence of acute joint symptoms.

Case Reports

Case One. This is the case of a twenty-six year-old male who started complaining of dizzy spells and easy fatigability at age twenty-three. Prior to this time he had enjoyed good health, and had never had any kind of abnormal feeling. Studies at another clinic had revealed probable amoebiasis, which responded to treatment, and weight loss. He had been troubled with sinusitis and a post nasal drip for years. The patient was treated for these symptoms, but emphasis was placed on what appeared to be psychosomatic tendencies. Variable response was noted; a combination of nasal infection and allergy was found and treated. However, for several years, the patient did not feel entirely well. In early July, 1956, he complained of left chest pain, which began in the back and radiated around the axilla below the left nipple. Intercostal neuralgia was suspected, and treatment was directed toward clearing this condition. In late July, he noted the onset of sudden visual disturbances with blurring, slight dizziness, inability to think accurately and fright. He was taken to an ophthalmologist who made a complete examination and stated that the cause was toxic. This episode seemed to respond to thorazine, antihistamanics and to antibiotics for sinus infection, although there was no proof that the focus was conclusively found in the sinuses or anywhere else. In December, 1956, the patient consulted the author for a sore wrist for three months. At this time a blood uric acid was found to be 7.5 mgms. percent. This young man was treated with a low purine diet and with Benemid®. Since then, he has had no recurrence of symptoms of any kind. There was no family history of gout. He has had no more symptoms relative to changes in the central nervous system.

Case Two. This is the case record of a thirty-eight year-old male who complained of low back pain for four to five months. Just prior to this complaint, he had an area of redness on the left heel, and at another office x-ray therapy was advised to be administered to this area in order to remove some obscure calcium deposit. He stated that the back pain seemed to radiate down the thigh to the left knee and that there was relief from hot water baths. In addition, he stated that eight or nine months prior to consulting the author he noted left wrist discomfort for several weeks. X-rays of the lumbar and sacral spine were negative. Left wrist x-ray was negative.

Past history revealed that the patient had had scarlet fever, diphtheria, pneumonia and peptic ulcer, for which he was rejected from the army.

Physical examination revealed hard nodular areas on the helix and antihelix of both ears. There was some evidence of scoliosis of the spine to the right in the lower dorsal region. There was pain in the back on rising from lying and sitting positions and on straight leg raising on the left.

A lumbar intervertebral disc syndrome was thought to be the cause of the present symp-

toms, and gout was suspected from the history of a calcified area on the heel and of pain in the wrist. Blood uric acid was 7 mgms. percent. No family history of gout could be elicited. The patient was placed on Benemid and on a low purine diet. A few weeks later the patient had a sudden spell during which he fell out for seven minutes. Everything seemed blurred, according to his description of the episode, and he felt weak for a considerable time after the unconscious period. It was at this time that the patient stated he had had similar spells for the past nine years. An electroencephalogram was entirely normal. On the regimen for gout, symptoms cleared, and the patient has not been troubled since institution of therapy. Recent blood uric acid determinations were 5.3 and 4.1 mgms. percent. He has had no symptoms in the past eighteen months.

Discussion

It is apparent that gout is a disease which can involve many structures of the body in addition to the joints. It is an obscure disease. There are evidences that the adrenal glands or the testes may be involved, since urinary 17-ketosteroids are decreased during attacks of gout or during asypmtomatic interval gout. Urinary 17-ketosteroids are substances largely due to the metabolism of adrenocortical and testicular androgens. Likewise, as mentioned above, studies of the mineral and water exchange associated with episodes of acute gout lead investigators to consider gout a disturbance of the equilibrium of the body more widespread than a dysfunction of uric acid metabolism alone. Since it is apparent that many other diseased states can be associated with hyperuricemia, and that these individuals may not have any of the manifestations of gout, one is led to believe that in gout, different changes other than those due to simple hyperuricemia may occur, and may be responsible for vague symptoms. In the patients in the present report, there is strong evidence that there were associated central nervous system manifestations which accounted for the blurring of vision and temporary periods of incomplete awareness of surrounding environment. These symptoms could possibly be explained by electrolyte imbalance or by the disturbances in equilibrium of the body due to some other factor than uric acid dysfunction. One may surmise that imbalance of mineral and water may be the cause. Indeed, no other cause could be found, and each of these patients had vague joint and neurologic or neuritic symptoms with high blood uric acid levels and response to lowering the levels. One is inclined to believe that in view of the low urinary 17-ketosteroid excretion in asymptomatic or in acute gout, there may be other evidences of adrenal involvement to account for the mineral and water imbalance.

These facts are limited and are suggestive that more data are needed. However, they are not too indefinite, and are certainly no more indefinite than some of the other aspects of gout and uric acid metabolism. This is even more apparent when one remembers that colchicine, the drug of choice in many acute gouty episodes, acts in an unknown manner to curb symptoms with or without reduction of uric acid levels, although in most instances the high levels do drop after a course of colchicine. It is suggested that colchicine might decrease the rate of uric acid synthesis. Moreover, one is impressed with the patients having gout who have no evidence of increased blood uric acid levels, in spite of the fact that it is generally thought that all patients with gout have high uric acid levels at some time or other, whether they are detected or not.

Recent application of isotope techniques has demonstrated that glycine, ammonia and carbon dioxide are involved in the synthesis of uric acid, and that this organic acid is not derived exclusively or even in major part from preformed purines or nucleopurines. Uric acid can also be formed from the purines of the nucleic acids. It is also clear that purines and purine derivatives can be synthesized in the body from simple molecules, and that they may be incorporated into nucleic acid or directly oxidized to uric acid.

Another point of practical importance in re-

gard to disturbances of chemistry in those with gout is proved by the fact that serum cholesterol values are usually higher in those who have gout or hyperuricemia without symptoms.

Summary

Gout is an hereditary disorder of uric acid metabolism.

The exact cause of gouty symptoms is unknown, although sufficient evidence favors some dysfunction of uric acid metabolism.

Uric acid can be synthesized in the body from simple molecules with no apparent need for preformed nucleopurines to be involved.

Hyperuricemia may exist in an individual with no symptoms. Atypical symptoms may be due to hyperuricemia or to some associated metabolic or chemical disturbance due to or associated with hyperuricemia.

Current experiments, chemical studies and use of radioisotope technique favor electrolyte disturbances, which may cause symptoms, other than those attributed to joint, bursal and tendon involvement due to uric acid, of an unusual type in the gouty patient. There is some evidence that these metabolic aberrations cause a temporary intoxication which may account for changes in the brain and other tissues. It is definitely known that vascular sclerosis and hypercholesterolemia are more common in gouty individuals and in some individuals with hyperuricemia.

In the present report, the two cases showed hyperuricemia, vague joint and neuralgic symptoms and central nervous system manifestations. One of the patients exhibited central nervous system symptoms for ten years. All symptoms in these two patients subsided after blood uric acid was reduced to normal limits with Benemid and a low purine diet. Electroencephalographic studies were negative in one of these patients.

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Psychosomatic Disease—
Somatopsychic Disease

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In the past several years the medical profession has become increasingly aware of the so-called psychosomatic diseases: diseases which have predominantly physical signs and symptoms with psychological factors important in the etiology. Among the more commonly mentioned such diseases are bronchial asthma, peptic ulcer, ulcerative colitis and essential hypertension. During the past four years, while associated with the medical service of a large state hospital, we have been made increasingly aware of the converse of this situation: diseases with dominant psychiatric manifestations having physical factors important in etiology. Many of these patients show marked psychiatric improvement when the physical factors are adequately investigated and treated. We do not contend that there necessarily is a physical or biochemical factor in all insanity, however such a situation occurs with a frequency which more than justifies constant vigilance by the medical staff.

Psychiatry, as a medical specialty, has made much progress in the past few decades, however there remains a great unknown in this field, perhaps greater than in any other specialty. It is not unreasonable to hope that consideration of these physical factors might fill some of the gaps in psychiatric knowledge.

The availability of adequately trained psychiatrists is such that, under most state commitment laws, the medical profession is represented at insanity hearings by the generalist or the internist. Adequate consideration by these people of some of the possible physical factors important in the maladjusted individual might well significantly reduce the necessity for institutionalization. We estimate physical factors to be important in as many as twenty percent of the patients admitted to our institution.

Probably the most common system of diseases showing psychiatric manifestations are those associated with organic changes in the central nervous system. Expanding lesions involving the frontal, parietal, and temporal lobes of the brain are not infrequently associated with predominant personality changes or other psychiatric states. Personality changes or psychiatric disorders are also fairly frequently seen with degenerative diseases of the central nervous system involving the same area. The most common example is the personality changes following cerebral vascular accidents. Psychiatric changes are so common in multiple sclerosis as to be a part of the classical clinical picture of that disease. Most frequently this takes the form of a hypomanic or a euphoric state, probably fortunate in this particular disease.

Metabolic and endocrine disorders are also relatively high on the list of those showing

psychiatric manifestations. Probably the most common example of this is the usually mild personality disorder seen with the menopausal syndrome. In a high percentage of patients, this responds promptly to adequate replacement therapy. Occasionally, this mild disorder progresses to frank psychoses, the so-called involutional psychoses. To my knowledge, no one has attempted treatment of a series of these patients with hormone replacement alone.

Psychiatric impairment to a greater or lesser degree is almost uniform in thyroid disorders, both those of hyperactivity and those of hypoactivity. We have seen a number of patients whose primary complaint was one of "nerves" who demonstrated on adequate investigation a mild to moderate increase in thyroid activity as mirrored by the protein bound iodine. We have seen several instances of marked hyperactivity in which the dominant finding was a frank psychosis with improvement following anti-thyroid therapy. The apathy, sluggishness, and personality changes of frank myxedema have resulted in the coining of the term "myxedema madness."[1] However, many patients with more subtle hypothyroidism will show mild to marked personality changes. We have seen, during the past four years, fifteen patients whose myxedema and mental changes were of such a severity as to warrant commitment to a mental institution. Prognosis in this group of patients following long term therapy is quite good.

Most general physicians need no reminder of the acute delirium associated with both diabetic acidosis and hypoglycemia. We feel that we have observed a correlation between the degree of psychiatric impairment and the control of diabetes among our diabetic patients, this in both patients with and without evidence of diabetic neuropathy. This is certainly not a one to one correlation for we occasionally see the opposite, but it is common. We have seen two instances of organic hyperinsulinism with frank psychoses, the psychiatric impairment correlating well with the blood sugar level. We have seen patients having frank psychoses associated with hypopituitarism and acromegaly as well as with Addison's disease.

The psychiatric and neurological changes with the increase in intracranial pressure and papilledema associated with chronic respiratory disease has been of such frequency that a series of these patients has been reported from the neurosurgical service in another large hospital.[2] The psychiatric impairment of hepatic coma also received much attention in the literature in recent years.

Diseases of the blood have been fairly common, in our experience, as factors producing acute psychiatric impairment. We have seen numerous instances of rather severe long standing anemia, both of the classical Addisonian pernicious type and other anemias associated with severe psychiatric impairment with no other evidence of subacute combined degeneration. The prognosis in many of these cases has likewise been favorable. The most striking example in our experience of this was a young woman who was committed in a completely disoriented state. She was found to have a hemoglobin of three grams and a tremendous hookworm infestation. This responded to adequate treatment with complete psychiatric recovery.

Among cardiovascular diseases we have seen numerous examples of hypertensive disease with apparent encephalopathy and delirium. Of course, as all physicians know the anxiety with acute myocardial infarction may progress to frank psychoses.

We have seen one instance of recurrent complete amnesia associated with recurrent acute congestive heart failure on the basis of aortic insufficiency secondary to rheumatic fever. This case has been reported in greater detail elsewhere.[3]

This short chronicle of diseases not infre-

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quently associated with psychiatric impairment is by no means complete. However, this should point out to us the efficacy of a complete general medical history and physical examination, with appropriate laboratory work, in any case with obvious psychiatric disease. In fact, we feel that it is of such importance that we would suggest that all patients being committed for psychiatric treatment or subjected to intensive psychiatric treatment should be investigated for evidence of an underlying organic disease.

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AROMATIC AMINES AS CARCINOGENS IN INDUSTRY

"The history of occupational cancer of the bladder shows that many years may elapse before the danger from an industrial carcinogen is recognized or even suspected. Sixty years of scepticism passed before Rehn's original indictment of fuchsin manufacture in Germany was confirmed in Great Britain; 23 years elapsed between the attribution of the first case to naphthylamine and the general recognition of the hazard from 2-naphthylamine; for over 30 years benzidine was under suspicion before it was universally accepted as a bladder carcinogen in man; 25 years passed before bladder tumours were discovered in rubber workers exposed to naphthylamine-aldehyde condensates in Great Britain and, as a more recent example, 4-aminodiphenyl had been manufactured in the U.S.A. for over 17 years before the danger involved was pointed out.

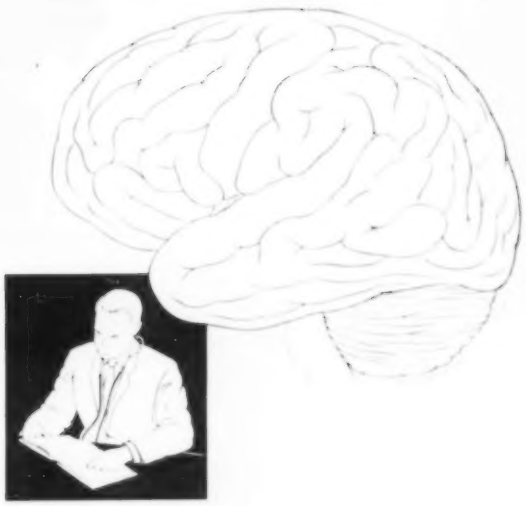
Every year that inadequate precautionary measures are taken, the final yield of bladder tumours increases. The chemical industry has taken active measures to combat this danger. The manufacture of 2-naphthylamine has been abandoned in Germany, Switzerland, and Great Britain, and rubber antioxidants from 1- and 2-naphthylamine are no longer made in Britain. The publication by the Association of British Chemical Manufacturers of a code of practice for the handling of known bladder carcinogens (Scott & Williams, 1957) has laid down a standard to be aimed at in achieving safe working conditions. If all these measures are successful, the future yield of tumours due to known carcinogens in the dyestuffs industry should fall rapidly in the next 20 years, but the casual use of these dangerous substances in other industries must be a matter for concern.

We present the summarized results of our tests of amines and diamines as a guide to chemists, and technologists who may contemplate using them in the future. In this way we hope to anticipate some of the dangers from compounds of this nature and thus prevent a recurrence of the unfortunate experiences of the past."

A. L. WALPOLE AND M. H. C. WILLIAMS

British Medical Bulletin

RAYMOND W. VOWELL
CHARLES C. CLELAND, PH.D.
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The Physician and Mental Retardation

According to the United States Department of Health, Education and Welfare, three of every one hundred children are mentally retarded. Based upon current census figures, approximately 4.8 million individuals are so handicapped. With the well-being of so many at stake, how can the family physician guide the parents or guardians toward a realistic acceptance of and adjustment to this condition?

A unique situation is created when the physician transmits a diagnosis of mental deficiency. Unlike most other diagnoses, in this situation the person to whom the diagnosis is given is not the patient. It is the parent's, not the patient's decision to accept or reject diagnosis and to act or refuse to act in accordance with the physician's advice. Frequently, in contrast to the reaction to a diagnosis of measles or pneumonia, the physician will be faced with denial, rejection, and outright hostility on the parent's part in an attempt to avoid the diagnosis of mental deficiency. In spite of the assurance that the condition is, with presently existing knowledge, "incurable," many parents will reject not only the diagnosis, but the physician himself and will seek a more acceptable diagnosis. The resulting "clinic shopping" is often prolonged to a point which exhausts the economic, psychological, and physical resources of the family.

The family physician's role in this situation is not an easy one. He renders the diagnosis knowing that by so doing he creates many

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problems for the parents. The need on the part of most parents for support and help while the adjustment is made requires far more time than the busy general practitioner can spare. He may also feel either unwilling or unable to handle the hostility which some parents will manifest. Even when acceptance of the diagnosis is achieved, the many and diverse factors influencing the planning for the child require much time and investigation if responsible advice is to be given—time, again, which the general practitioner simply does not have.

Nevertheless, the person from whom help is most often sought in such cases is the family physician. He, most often, is the first professional person to bring the unwelcome news to the parents. If he is to retain his important role in the lives of these families, some plan must be adopted for utilizing assistance from other sources. His armamentarium must include a knowledge of the resources available to these patients and their families.

One such resource—and a most helpful one—has developed out of the human need to "share" such problems with others who have already experienced them. The parents of mentally deficient children, surprising as it may seem, often know no other parents with a similar problem. Recognizing the threat imposed by such isolation, the parents of retarded children have organized themselves into the National Association For Retarded Children,[1] with chapters in most cities and in every state. This organization, about a decade old, has already made significant contributions through lobbying for better residential facilities, supporting research, disseminating information to the laity and professional personnel, and sponsoring day-care centers and special classes in public school systems.

But their greatest contribution is, perhaps, to the parents themselves. The parent "newcomer" to this organization becomes part of a group "sharing" a common problem; and the strength derived from membership is of immediate help. Many members have become relatively sophisticated through study, interaction with professional people, and contacts with institutional personnel. These members serve in many capacities and continuously strive to remain actively engaged in betterment of their organization. Such a group can, like Alcoholics Anonymous, supply the information, strength, and support for making newcomers welcome and active in something that transcends their individual problems.

Another referral source at the national organization level is the American Association on Mental Deficiency.[2] Composed largely of representatives of the various professional disciplines working in the field of mental deficiency, the Association also welcomes parents into membership. This may constitute an excellent referral source for those parents who have training, work experience, or education in the disciplines of medicine, nursing, psychology, sociology, or other fields related to the problem. In addition to the excellent journal published by this group, listings are also provided of members and of private and public residential facilities for the retarded child—both of assistance to the parent exploring placement possibilities.

On a local basis, the physician may find assistance for the parents in the disciplines of psychiatry, psychology, social work, and special education. These disciplines are closely engaged with the problem of mental retardation and can supply answers to the many questions regarding placement facilities, information sources, educational methods, costs, etc. If the physician is acquainted with responsible representatives of these behavioral science fields and can refer the parents immediately, oftentimes "clinic shopping" for the physician who will "make the child well" can be avoided. In those instances where these disciplines are not represented in the community, information may be secured from county welfare caseworkers or from educators who frequently encounter the problem of mental retardation in their areas of work.

1. National Association For Retarded Children, Inc., 99 University Place, New York, New York.

2. American Association on Mental Deficiency, Central Office: P. O. Box 96, Willimantic, Connecticut.

A further source of information is usually available from the state supported residential schools for the retarded. Such information as facilities available, restrictions on admission, costs, staff-patient ratio and other specific information may be obtained on request. Where pre-admission studies are done, the medical, psychological, and social casework staff assist the parents in decision as to placement.

More recently, eugenic clinics have been established in connection with major universities to assist parents who seek professional opinion regarding the advisability of having other children. These clinics contribute not only counsel and advice, but have amassed valuable research data which may provide some answers to this vexing problem.[3] The physician who refers patients to such centers is not only assisting the parents with their immediate problem but is making a distinct contribution to knowledge in this field.

Society has long indicated the place of the family physician as more than that of a healer of medical ills. Mental retardation represents a small percentage of the problems coming to the attention of the physician; but no problem transcends it in the minds of the parents. When mental deficiency occurs, the physician can do more than any other person in our society to prevent complete family disintegration; his referral may mean the difference between a logical acceptance of the problem and needed assistance and an illogical refusal to accept any less than a "magic cure." In short, his referrals to other responsible disciplines will not only assist and inform the parents, but will support their faith in their family doctor.

Box S, Capitol Station

3. The University of Minnesota has pioneered in the field of applied eugenics.

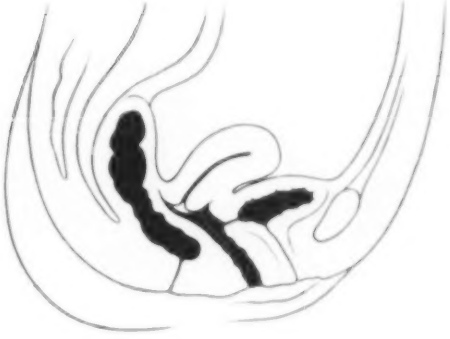
CLINI-CLIPPING

A. Rectovaginal Fistula



A.

B. Vesicovaginal Fistula



B.

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WILLIAM A. REED, M.D.
New Orleans, Louisiana

Genitourinary Bleeding

Intravenous Estrogens for the Control of Bleeding in the Genitourinary Tract

Bleeding remains one of the most common conditions treated by the urologist. Gross hematuria frequently heralds the onset of disease in the urogenital tract. Many operative procedures have to be undertaken merely to control such hemorrhages. During surgery, oozing and frank bleeding impede and prolong the operation, increasing morbidity and mortality. For these reasons, the urologist is always on the alert to find more effective hemostatic techniques.

Recently, the use of intravenous estrogen has been shown to prevent and control certain types of hemorrhage from the nose and the mouth,[1-4] the pharynx,[2,3] and from the gastrointestinal tract.[2] These reports and the discovery that intravenous estrogen accelerates the normal clotting mechanism[5] led to a trial of this therapy in unselected patients with bleeding from the urogenital tract.

Material and Methods

Twenty-nine consecutive patients, ranging in age from seventeen to eighty-nine years, received one or more injections of intravenous estrogen. Each dose contained twenty mgms. of conjugated equine estrogens (Premarin®). While the number of doses varied, most patients received a total of only one or two injections.

The patients fell into three categories, based on the indication for the intravenous estrogen. Group I consisted of sixteen patients who were treated prophylactically. They received one injection within an hour before surgical therapy and a second immediately postoperatively while in the recovery room. The three patients in Group II received intravenous estrogen to control hemorrhage which occurred during surgery or in the postoperative period. Group III was composed of ten patients having hematuria which was caused by a variety of urogenital lesions.

Results

Group I: A significant decrease in operative and postoperative blood loss was noted in the group of patients treated prophylactically. Of the ten who underwent prostatectomy for benign hypertrophy, bleeding was minimal in nine. There was no gross evidence of bleeding after the first postoperative day. The one failure, although he received five additional injections of Premarin, continued to bleed for ten days.

From the Browne-McHardy Clinic.

Premarin Intravenous, Ayerst Laboratories, New York, New York.

In five of the remaining seven patients blood loss was unusually low. For example, during a nephrolithotomy, so little bleeding was encountered that it was not necessary to clamp the renal vessels. In the two bladder resections for carcinoma no benefit was noted.

GROUP II: The patient with a transitional-cell carcinoma of the bladder began to bleed during cystoscopic fulguration of the tumor. Premarin was administered intravenously, and within minutes, the bleeding had diminished enough to allow completion of the fulguration.

Another patient began to bleed eight days after a prostatic enucleation for benign prostatic hypertrophy. Bleeding persisted for twenty-four hours, despite usual attempts at control (catheter and irrigations). Then estrogen was given intravenously. Within one hour the urine became and remained clear.

Routine measures failed to re-establish hemostasis in a patient who bled for two days following a diagnostic cystoscopy. Estrogen was administered intravenously, and within two hours the urine was clear. There was no recurrence of the bleeding.

GROUP III: Intravenous estrogen effectively controlled bleeding in six of ten patients in this group, patients with hematuria due to a variety of urogenital lesions. The response was usually noted within three hours after administration. In several cases bleeding ceased within an hour after the injection even though some of these patients had been bleeding for several days. Of the failures, bleeding in three was due to friable or infiltrating neoplastic growths. The fourth patient was bleeding from a laceration of the posterior urethra.

A particularly interesting patient was one who developed hematuria after insertion of an indwelling catheter. This patient, recovering from an acute myocardial infarction, was receiving prophylactic anticoagulants. The hematuria had persisted for four days before intravenous estrogen was administered. Two hours after the first injection, the urine was noticeably more clear. A second injection, twenty-four hours later, resulted in the complete disappearance of blood from the urine. It was not necessary to discontinue the anticoagulant therapy.

One of the patients who had idiopathic renal bleeding, had bled for two weeks. In the past he had had episodes of hematuria every three or four weeks for ten years. The hematuria cleared after one intravenous injection of Premarin. He has not had a recurrence in the past five months.

Side Effects

No undesirable side effects were observed. There was no evidence of endocrine-induced changes. The medication was well-tolerated and there were no allergic reactions.

Discussion

Laboratory evidence that intravenous estrogens have a positive effect on clotting, once the process has begun, has been reported by Johnson.[1] Assays have revealed increased serum prothrombin and accelerator globulin levels, and decreased antithrombin levels.

Clinically, in our hands, Premarin given by the intravenous route has proven an effective physiological hemostat, promoting and accelerating the normal clotting mechanism. In most of the patients the estrogens given intravenously were effective. In the failures, it is likely that a relatively large blood vessel had been opened. This conforms with Jacobson's theory that intravenous estrogens are most effective when there is vascular oozing over a diffuse surface.[2]

The small number of patients included in this series can not justify any conclusive statement concerning the effectiveness of intravenous estrogen in effecting clotting. Nevertheless, the evidence strongly suggests that Premarin Intravenous can be an important aid in the prevention and control of bleeding in urology.

Summary

Twenty-nine patients were given Premarin Intravenous in an attempt to arrest various genitourinary bleeding problems.

Thirteen of sixteen treated prior to surgery

GROUP I

AGE	DIAGNOSIS	INDICATIONS FOR PREMARIN I.V.	NUMBER OF 20 MG. DOSES	RESULTS	TIME FOR RESPONSE	COMMENTS
69	Benign Prostatic Hypertrophy	Prophylaxis	2	Good		Much less postoperative bleeding.
67	" " "	"	2	Good		Urine clear on 1st postoperative day.
65	" "	"	2	Good		Urine only slightly bloody on 1st postoperative day.
62	" "	"	2	Good		Much less postoperative bleeding.
57	" " "	"	2	Good		Urine clear on 1st postoperative day.
65	" " "	"	2	Good		Urine almost clear on 1st post-operative day.
78	" " "	"	2	Fair		Less bleeding than usual.
75	" " "	"	3	Good		Bleeding on 8th postoperative day; responded to another injection.
65	" " "	"	7	Failure		Bled for 10 days.
39	Phimosis-Circumcision	"	1	Good		
25	" "	"	1	Good		
17	" "	"	1	Good		
60	Cancer of the Bladder	"	1	Indeterminate		
66	" "	"	1	Indeterminate		
65	Cancer of the Prostate	"	23	Good		Because of diagnosis Premarin given daily for 3 weeks.
55	Renal calculus-Nephrolithotomy	"	2	Good		Negligible operative or post-operative bleeding.

GROUP II

75	Cancer of the Bladder	Bleeding during Fulguration	1	Good	Within minutes
62	Benign Prostatic Hypertrophy	Postoperative Bleeding	1	Good	1 hour
60	Diagnostic Cystoscopy	Postoperative Bleeding	1	Good	2 hours

GROUP III

AGE	DIAGNOSIS	INDICATIONS FOR PREMARIN I.V.	NUMBER OF 20 MG. DOSES	RESULTS	TIME FOR RESPONSE	COMMENTS
47	Hemorrhagic Cystitis	Bleeding for 4 days	2	Good	2 hours	Bleeding stopped after 1st injection; recurred 5 days later and stopped after 2nd injection.
65	Granular Posterior Urethritis	Bleeding for 2 days	2	Good	3 hours	
75	Acute Prostatitis	Bleeding for 4 days	1	Good	45 minutes	
77	Benign Prostatic Hypertrophy Coronary Occlusion	Bleeding for 4 days	2	Good	2 hours	Hematuria reduced after 1st injection. Stopped after 2nd.
62	Idiopathic Hematuria for 4 days from Right Kidney		1	Good	3 hours	No recurrence.
36	Idiopathic Hematuria from Left Kidney, Intermittently over 2-3 weeks for 10 years		1	Good	1 hour	No recurrence.
66	Cancer of Prostate	Intermittent Hematuria-4 mos.	2	Failure		See text.
89	Papilloma of Bladder	Hematuria for 1 week	2	Failure		See text.
75	Cancer of Bladder	Hematuria	6	Failure		See text.
32	Laceration of Urethra	Bleeding	12	Failure		

experienced significantly less blood loss than would have ordinarily been anticipated.

Three patients who developed hematuria postoperatively responded most satisfactorily.

Bleeding stopped in six of ten patients with hematuria due to a wide variety of conditions.

No side effects or untoward reactions occurred.

The primary value of this small series lies in its suggestion that intravenous estrogens can be used effectively to control various bleeding problems encountered in urology.

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3636 Saint Charles Avenue

SYMPTOMS AFTER CHOLECYSTECTOMY

"The reasons for cholecystectomy have been examined in 141 patients, whose postoperative progress has been studied for one to seven years.

No gallbladder was removed unless it contained stones or was obviously diseased.

121 (86%) of the 141 patients were symptom-free after operation.

Significant symptoms were found in 20 patients (14%); but, in all except 2, the causes were extrabiliary. In 2 others, symptoms may have been caused by operation. Symptoms due to biliary-tract lesions in 4 more patients had been cured before follow-up.

No evidence was found of "biliary dyskinesia."

The use of the term "post-cholecystectomy syndrome" does not seem justified.

W. BURNETT AND R. SHIELDS

The Lancet

MEDICAL CONFERENCE

First Case:

Severe Intestinal Bleeding

Second Case:

Hepatic Disease

DR. PERRIN LONG (CHAIRMAN): We will begin this conference with the discussion of the case-record of N.C., who had fatal, severe, lower intestinal bleeding due to infection with Salmonella typhosa. The case record will be presented by Dr. Buttafuoco. The patient died shortly after she entered the hospital.

FIRST PATIENT
Severe Intestinal Bleeding
Presented by Dr. J. P. Buttafuoco
Discussed by Dr. M. B. Milberg

DR. BUTTAFUOCO: This is the first Kings County Hospital admission of a 22-year-old, intelligent, cooperative white woman who came to the hospital because of weakness, syncope, and thirst which had developed during the previous fourteen hours. She had only had smallpox vaccination in the past. She had never been vaccinated against typhoid fever. She returned from a two months' vacation in Mexico on September 7th.

While in Mexico she had been in Mexico City for most of the time, but she had visited several small towns in Yucatan Province. She stated she did not drink unpasteurized milk, unboiled water, or eat fresh vegetables, or fruit while she was there. On Wednesday, September 18th, she first noticed malaise, weakness, easy fatigability, and sleepiness. She continued about her work, but noted that the symptoms increased and by September 22nd, she felt warm, had a headache, and decided to stay in bed. On September 23rd, she went to see her doctor at his office. He told her she had a sore throat, temperature of 99°, and prescribed tetracycline which the patient took every six hours for three days. By the evening of September 25th she also realized that she had been constipated for a week. She had a slight non-productive cough and her temperature was 103°. The doctor

From The Department of Medicine, Kings County Hospital Center, and The State University of New York Downstate Medical Center.

came to see her at her home and gave her an injection of cortisone. She felt somewhat better but did not feel entirely well. On Friday evening the physician was again called to see her at home. He gave her an injection of penicillin and four cortisone tablets, to be taken, one tablet once a day. By September 29th she felt better, but she noted the onset of aching of fingers and right wrist at that time. On the evening of October 1st the patient went to the toilet, passed a bloody stool, fainted, and was found on the floor of the toilet by her father shortly thereafter. When she came to, she had an ache in her back and felt weak and dizzy. On this same day she vomited but did not notice the contents of the vomit; it was small in amount. The other symptoms of headache, fever, malaise, and sleepiness persisted, and her father brought her to the hospital on Tuesday morning, October 2nd.

The patient had been born in Brooklyn and lived there all her life except for her trip to Mexico. She said that she had had measles, German measles, chicken pox, jaundice, mumps, and two episodes of appendicitis which had been treated by freezing. She had had a tonsillectomy when a child. There was no history of other diseases.

On admission, the blood pressure was 104/50, the temperature was 104.8°, respirations were 30, and the pulse was 92. She was a well developed, well nourished, anxious young woman who appeared acutely ill. She had no rose spots, lymphadenopathy, or ankle edema. Her ears were normal. Her throat was not injected. Her neck was supple. Her breasts were normal. The lungs were clear. The heart was not enlarged. It had a regular sinus rhythm. P2 was greater than A2. The abdomen was flat. The liver, kidney and spleen could not be felt. There was slight tenderness over the pubis and bowel sounds were hyperactive, and increased in frequency. On pelvic examination the patient had a virginal introitus and no blood was coming from the vagina. The rectal examination revealed no hemorrhoids, good sphincter tone, no masses in the rectum, mucosa was smooth and bright red, and foul-smelling blood was found on the glove. The neurological examination was normal.

A catheterized urine specimen had a specific gravity of 1.024, an acid reaction, a trace of albumin, a two plus acetone, 100 red blood cells, and 3 white blood cells per high power field. The hemoglobin was 8 grams, the hematocrit was 32, the sedimentation rate was 18, the white blood cell count was 3,700 with 13 polys, 81 lymphocytes, 6 monocytes. Bleeding time was 2 minutes and 15 seconds; the Lee-White clotting time was 4 minutes and 10 seconds. Prothrombin time was 15.42 with a control time of 14.7. Blood, urine, and rectal swabs were sent for culture to the bacteriological laboratory, and the patient was started on chloramphenicol 1 gram by mouth, and a blood transfusion was started.

Gastric aspiration produced five cubic centimeters of yellow mucoid material which was four plus by the guaiac test. Proctoscope was passed by a surgical consultant to 25 cm., and no lesions were seen although much blood was coming from above that was dark and fluid. Very few clots were seen.

In all it was estimated that the patient lost about 3000 cc. of blood during her hospital stay. About 9 p.m. while she was receiving her fifth unit of blood, the patient had a severe shaking chill, and the temperature was found to be 101.8°. She was fully responsive and alert at 11 p.m., when the hemoglobin was 14.4, the temperature was 104°, the blood pressure was 100/50, but the pulse was now 130 and the respirations were 28. At about 12:30 a.m., the patient became cyanotic and did not respond despite being given oxygen. An endotrachael tube was passed. Suction revealed red fluid material in profusion in the trachea.

The stomach was intubated and was found to be empty. Blood was still being administered and the patient was starting on her eighth pint. The pulse was now 160, the blood pressure was 100/50, the respirations were 36, and the temperature was 104°.

About 10 p.m. she was given 1 gram of chloramphenicol intramuscularly. At 2 a.m. while a polyethylene tube was being inserted in

her femoral vein, the patient's heart stopped. Her respirations stopped shortly thereafter. She was pronounced dead approximately sixteen hours after admission. Only about 30 cc. of urine had been obtained in the entire hospital stay.

Four days after admission Salmonella typhosa was cultured from the blood, and the same organism was found in post-mortem cultures from the right heart blood, and the mesenteric lymph nodes. At post-mortem, many ulcerations of Peyer's patches and, in the terminal three feet of the ileum which was also filled with blood, were found. Ulcerations and blood in the cecum were noted and in all of the ascending colon. There were enlarged soft lymph nodes, and an enlarged soft spleen. The heart was not enlarged. The lungs showed moderate diffuse pulmonary edema. The liver appeared to be normal. Cerebral edema and mucosal hemorrhages in the rectum were found.

DR. LONG: Thank you. That was a good summary of the patient's illness. Now, Dr. Milberg, will you please continue the discussion?

DR. MILBERG: As you have noted from Dr. Buttafuoco's presentation, we have a fairly classical, severe, but relatively untreated case of typhoid fever going on to an unfortunate termination. The question would come up, of course, whether the fact that the patient had been given cortisone would have had anything to do with her death. You will find your answer to this in the modern therapy of severe typhoid fever in which cortisone is actually used to combat the toxemia. Possibly, if the physician who had been called had used larger doses of cortisone at least the toxemia associated with typhoid might have been averted. Had the diagnosis been made early, the question, of course, can be asked as to whether this girl would have gone on to her unfortunate demise. But as usually happens in severe typhoid, this girl had two of what one would term the most severe complications of Salmonella typhosa infection: that is, hemorrhage in the lower intestinal tract, and toxemia. A third complication which occurs in a small percentage of cases in well documented series in many parts of the world is perforation. Fortunately, we didn't have the third severe aspect in this girl, but the other two were enough.

You will note that the girl does present almost classically every complaint that you can pick out of any textbook, the arthralgia, the pulmonary involvement, the weakness, and other typical physical findings and complaints which should have alerted the physician to recognize a probable Salmonella infection, especially the intestinal complications of Salmonella typhosa.

The thought has come up, and perhaps Dr. Long would give us the benefit of his own experience in therapy prior to the antibiotic era, and then with the early use of the tetracycline drugs, in varying dosage, and the large doses of penicillin, as contrasted to the changes that have occurred in treatment with the advent of chloramphenicol.

Among large series of patients, of course, there will be some conflict with respect to prolongation of life, the relapse rate change, and the complications which do occur. When one goes over the large series presented by LeRiche from South Africa, and by Scoval in China, one realizes that these groups cannot be compared with those in a modern society and receiving modern therapy, because in these primitive areas, therapy was not carried out in many instances and the patients had many other debilitating diseases which might have influenced the end result. In many patients, therapy was not carried out in adequate dosage or long enough. Suffice to say, that we feel that therapy should be maintained in adequate dosage schedule, namely, 50 mgms. per kilo or more per day in divided doses, for a minimum of two weeks, perhaps carrying on for three to four weeks of continuous therapy and not stopping therapy until the stools have been adequately examined and the proper number of negative cultures reported. Three negative stool cultures are required.

The second aspect of therapeutic importance is that knowing the pathogenesis of Salmonella typhosa, cortisone or steroids should be used as an adjuvant therapy, early to combat the

toxemia. As you know, the Salmonella typhosa is primarily an intracellular organism, and its endotoxin which produces the toxemia is produced on dissolution of the organisms, and for about forty-eight hours to seventy-two hours, or perhaps slightly longer. The steroids should be used, but not for much longer than seventy-two hours.

The third point which I would like to mention, and I know Dr. Long perhaps would also remark on this aspect, has to do with patients having typhoid fever in the Service during World War II. These boys had been adequately vaccinated, at least it was thought they had been adequately handled, and yet they came down with typhoid fever. Perhaps they were exposed to an overwhelming infection. This brings to mind two series of patients which were presented by the British. Two epidemics were studied in Egypt, and in both epidemics the attack rate varied from fifteen to thirty percent in the exposed groups. The British used an alcoholized vaccine as against our phenolized vaccine. Careful study was made of the vaccines and, according to the mouse protection studies, theirs was three times as effective as ours, when one compared the LD 50 factor alone, but they had a high attack rate, as I previously mentioned, in spite of the fact that rigid vaccination was employed. In spite of good therapy with what they had available at that time, at least good treatment in hospital, their mortality rate ran as high as ten percent in these two epidemics.

DR. LONG: Thank you very much, Dr. Milberg. Does anyone have any questions? (There were none.)

DR. LONG: In commenting on this young woman's stay in our hospital, it is always easier to think about it in retrospect than it is to anticipate its course. I would have thought that she had typhoid fever before the surgical consultation was asked for. When you think a patient has typhoid fever proctoscopy is useless. You will not find anything. This woman obviously had typhoid. You may harm a patient in the sense that a patient who is very ill with typhoid should not be "positioned" as they say, and moved around from pillar to post as may happen during a proctoscopy. The more quiet they are, the better off they will be. This young woman probably would be alive today if her doctor had given her chloramphenicol at the start rather than a tetracycline.

The history of the development of the use of chloramphenicol in typhoid fever by Theodore Woodward, who is Professor of Medicine at the University of Maryland, is interesting. Shortly after World War II, with the advent of chloramphenicol, it was decided by the Army that it would be worth testing it in scrub typhus. So Dr. Woodward in a group, Dr. Smadel, Dr. Woodward and some others, were sent to Kuala Lumpur in Malaya where the British had a research center, to work out of that center, in testing chloramphenicol for the prophylaxis of, and in the treatment of scrub typhus. Knowing that Dr. Woodward, who is a close friend of mine, was going down there, I provided him with a considerable amount of polymyxin B, which is an antibiotic which has an effect on a certain number of gram-negative organisms, but not on gram-positive organisms, so that he could test the effects of this antibiotic in typhoid fever, because they have a considerable amount of typhoid fever in Malaya.

He found, interestingly enough, that polymyxin B was valueless, and then he thought he would try chloramphenicol in typhoid fever. It worked, and out of this observation developed all the work which has been done with chloramphenicol in typhoid fever.

I would have difficulty in escaping the belief which I have gotten from the carefully controlled and carefully studied series of patients treated with the combination of cortisone and chloramphenicol, that the combination is effective. I can say that I, myself, would like to be treated with cortisone and chloramphenicol if I had typhoid fever.

As with almost any type of immunity, if you receive enough of the antigen, and the antigen is either alive or is able to produce toxic effects, you can break through practically any degree of immunity which has been established against bacterial infection. For that reason one must

expect, when you have an army in an area where typhoid is endemic, to have sporadic cases of typhoid fever. Soldiers will drink untreated water and will come in contact with water which is heavily contaminated with typhoid bacilli sooner or later.

Italy was a place where there was a lot of typhoid fever during the war and in places where civilian sanitary measures had broken down, and with our troops in the mountains, and around those little villages which had been shelled, and whose wells were not too good anyway, plus heavy rain, and a great deal of surface water, and poor water discipline, it was not surprising that we had a very marked increase in typhoid fever in the fall of 1943 and 1944 during the rainy periods. As I have just said, the water discipline of our forward troops was poor and they drank water whenever they saw water that tasted cool and looked clear, and at times it didn't have to be clear. I found in one of the leading hotels of Florence shortly after it was taken, that people were drinking water which looked like muddy water but which came out of the tap marked drinking water in the hotel. It turned out that the filtration plant had broken down and water was being drawn right out of the Arno River.

In closing, one of the very interesting things which Dr. Milberg mentioned was the British epidemics in Egypt, where, despite excellent hospital care but with no specific therapy, the mortality rate was ten percent. This is interesting because, in a book which you may find in the library, called "The Continued Fevers," written by a Dr. Wood in Philadelphia about 1880 or 1881, and which is one of the most amazing compendiums of information on infectious diseases characterized by continuing fevers which I have ever come across, Wood quotes enormous series of typhoid patients from hospitals in Vienna, from Berlin, and from London, back in the eighteen fifties and -sixties, in which the case-fatality rate was ten percent. In all modern epidemics in this country and abroad, where there have been enough cases so statistical analyses could be made, again the case-fatality rate was ten percent; no improvement occurred in saving people from dying who had typhoid fever from the mid eighteen fifties until chloramphenicol came along.

It was too bad that this patient had to die. I don't think she would have succumbed if she had come in earlier in her disease. If she had come in early, we would have kept the patient quiet in the hospital, and would have used the antibiotic regimen which Dr. Milberg suggested. We would have used 300 mgms. cortisone the first day, 200 mgms. on the second, and 100 mgms. the third day. Then we would have stopped the cortisone and kept up the chloramphenicol until, as Dr. Milberg said, we had three negative cultures, because that is what is required by law. I think that would represent the best of modern treatment.

Has anyone a question?

DR. SALOMON: Does the administration of cortisone without administering the proper antibiotic have any effect on the outcome?

DR. LONG: I do not think so. You will have relapses. The only reason for using cortisone is to try to cope with the toxicity of the disease. Now, possibly if the patient came in early, as may occur, and were not toxic, one might not give the cortisone. That depends upon the condition of the patient.

A DOCTOR: You mentioned from Dr. Wood's book a ten percent case-fatality rate. I was under the impression we have better feeding methods which help in the treatment of a patient who has typhoid fever.

DR. LONG: He gets out of bed quicker, and he is not a skeleton. He is not knocked out for months and months. Case-fatality rates in epidemics, however, have been just the same as they were about sixty years ago. I might say, in thinking of Wood's book, on the second page of his long description of typhoid fever, there is a little footnote in fine print which says that at such and such a meeting in 1880, Professor Eberth described a bacillus which he believed to be the cause of typhoid fever. This was just picked up as a footnote in this book.

DR. AUSTRIAN: I would like to emphasize that most of us are not going to be very alert about typhoid fever, which is certainly a very

rare disease. The most important thing, I think, is alerting a physician to the fact that what looks like grippe, or what looks like half a dozen other diseases, may be typhoid. This girl, when she came, was in shock; her temperature was 104°, but she still had a pulse of 92, which is surprisingly low for shock or a temperature of 104°. So that a patient who has the grippe or slow pulse in relation to temperature deserves at least a white count. If the white count is under 6000, it is up to the doctor to prove the patient does not have enteric fever. It is a rare disease, and you have to have some indicators to make us think of it, such as a slow pulse. It might also be pointed out that the use of the bilirubin test is still valuable. In most cases of grippe the patient does not have an elevated bilirubin, a high icterus index in the plasma, and a high urobilinogen in the urine. When it is typhoid fever the patient invariably has an increased icterus index, an elevated serum bilirubin, and an elevated urobilinogen index in diluted urine. So there are some pretty quick ways pointing towards typhoid fever in a patient whose disease seems a little odd. If the pulse is fast it probably isn't typhoid.

DR. LONG: Well, time is passing and we must go on to our next patient, who is Mrs. M.F. and who had hepatic insufficiency. Dr. Steifelman will not present the patient. Dr. Lewis will do this.

SECOND PATIENT

Hepatic Disease

Presented by Dr. C. Lewis

Discussed by Dr. E. Lehman

DR. LEWIS: The patient is a 57-year-old, white, separated, para 3-0-1-2 woman who was admitted on 9-12-57, and who expired on 10-7-57. The chief complaint on admission was related to an alternating diarrhea and constipation, and jaundice and vomiting. The patient was a known alcoholic and when she separated from her husband she markedly increased her alcoholic intake, three months prior to admission. She denied exposure to blood products, blood transfusions, or contact with anyone who had infectious liver disease. One month prior to hospitalization she had alternating diarrhea and constipation which subsided after two weeks. Then she became markedly jaundiced.

Her past history was non-contributory. Her family history showed that her mother weighed 600 pounds, and was in a circus, and that her father died of Bright's disease. Her sister has arrested tuberculosis.

Positive physical findings at the time of admission were a blood pressure of 100/70, pulse rate of 92 per minute, respirations of 16 per minute, and a temperature of 99°. She was very obese and jaundiced. She had several spider angiomata over the clavicles. On abdominal examination a liver that was enlarged to about 5-6 cm. below the costal margin, accompanied by marked upper right quadrant tenderness, and which was firm, but not nodular was noted. The spleen was not palpable. She had no peripheral edema, but ascites was present.

A neurological examination showed fine tremors of the hands.

Hospital course: The patient was placed on a high caloric-low protein diet and received daily intravenous infusions of 1000 cc. of ten percent glucose in water containing vitamin K, thiamin, niacin, 20 milli-equivalents of potassium chloride, and about 2 to 4 grams of magnesium sulfate. Her intake and output of fluids were checked and she was given oral neomycin in doses of 10-12 grams a day.

Because of acute respiratory distress 100 cc. of fluid was removed from the abdomen on 9-20-57. After that, her condition became worse and several more nevi appeared. She became anorectic, and a Levine tube was placed in her stomach. She was started on a fluid diet and her intravenous fluid intake was increased to 200 cc. of the above-mentioned mixture. On this regimen she developed a foul-smelling diarrhea, the fat in her diet was markedly increased, and she was given a strained solution in divided feedings which amounted to 1250 cc. per day. She became progressively lethargic and the day before she went into hepatic coma, she was started on Solu-cortef.® In spite of the

therapy the patient died on 10-7-57. There was no post-mortem.

The significant laboratory data on admission was a hemoglobin of 14 grams, white blood count of 13,750, hematocrit of 47, sedimentation rate 25 millimeters per hour uncorrected, and a normal urine. Liver function tests showed that her bilirubin was rising, her serum proteins were falling, the icteric index on admission was 33, and the alkaline phosphatase was 7.8. Her BUN was reported as being 9.

DR. LONG: Thank you very much, Dr. Lewis. Do you believe that BUN was 9?

DR. LEWIS: Absolutely.

DR. LONG: Why? You only have one determination. It might be someone else's, or was it in error? Why do you think it was 9?

DR. LEWIS: Well, in liver disease it could be that low.

DR. LONG: You think it was that low, there was no error in doing the test or transcribing the results?

DR. LEWIS: Yes.

DR. LONG: Just wanted to make sure. The discussion of this patient's course will be carried on by Dr. Lehman.

DR. LEHMAN: The diagnosis is probably obvious. One would consider it to be a case of alcoholic cirrhosis in view of the history of high alcoholic intake. The onset of jaundice about two weeks before admission makes us consider the possibility of a viral hepatitis, but in view of the fact that she had a very large liver, ascites, an alcoholic history, which probably was associated with a poor diet, we have a good background for the development of Laennec's cirrhosis.

We do not have an adequate dietary history here. We presume that with the alcoholic cirrhosis she developed progressive hepatic insufficiency. She was treated accordingly. Along with Dr. Long, I doubt that BUN of 9. That is extremely rare, and in all the instances of hepatic insufficiency that we have had here, where repeated BUN's have been done, I remember only one patient in whom such a low BUN was found. Terminally we usually find a rise in the BUN together with the progressive rise in serum bilirubin as shown in this patient.

On admission the patient had ascites and jaundice and a serum bilirubin of 14.5. As far as treatment is concerned, our experience with cases of this sort—i.e., an alcoholic coming in with cirrhosis, hepatic insufficiency, an elevated BUN, an elevated serum bilirubin, jaundice and ascites—has been very discouraging. Our outlook has been very pessimistic.

In 1956, we reported on nineteen patients treated with protein feedings and sodium glutamate therapy; several of these patients also received cortisone. But one patient recovered, and she had a serum bilirubin of 4.5. As I remember, about sixteen of these patients were alcoholics. However, the present patient did have certain signs which were favorable. Her serum sodium wasn't too elevated. She didn't have too much edema, and she had a very good output of urine. When one has a patient with very poor output of urine, albuminuria, ascites, edema, and a low sodium we consider the patient's chances as being pretty hopeless. However, despite this favorable sign of a good urine output, she progressed to a stage of hepatic insufficiency. Her serum bilirubin was high, very high, up to 25 mgms. and her prothrombin time increased from 17 to 25. When I saw her in October, which was after she developed a flapping tremor, she still had the typical flapping tremor. She had evidence of advanced hepatic insufficiency, and the evidence of hepatic coma was obvious.

In 1956, we began to treat these patients by protein withdrawal and with carbohydrate feedings, antibiotics, and electrolyte supplements. Since then we have had two recoveries in alcoholics. We had one recovery in a patient suffering from acute hepatitis who had deep coma and who was treated with cortisone. Reports on dietary treatment swing from the use of high protein and moderate protein feedings, to complete protein withdrawal in hepatic coma. Carbohydrate feedings, antibiotics, electrolyte replacement and in many different places, aspartic acid, glutamate, and arginine have been used.

Of course, one has to consider in discussing these patients' treatment, whether the patient has advanced liver disease which is contributory to the hepatic coma, or whether the patient has a wealth of good liver tissue with exogenous causes of deep coma being due to ammonium intoxication, or from some exogenous substance such as to ammonium lactate, high protein diet, Diamox,® ammonium chloride, etc. In this patient there was no evidence of any of these. Her history is that of a process due strictly to an increasing hepatic necrosis. Pathologically, we would expect to find hyaline bodies, parenchymal disorganization, and liver cell necrosis.

Regarding therapy, there are two aspects of treatment. The use of cortisone and ACTH has been unsuccessful. There have been reports of some improvement when contisone was given. We have not seen any help from cortisone in alcoholic cirrhosis. We believe we have had occasional good results in acute hepatitis, and there are reports in the literature to the same effect. ACTH is said to have produced good results in patients having hepatitis with coma. Generally poor results have been reported in alcoholics who have advanced sclerosis with hepatic insufficiency.

Recent reports are very interesting. Davis and his group, Summithill, Wolfson and Davidson, in a recent issue of *The American Journal of Medicine*, reported sixty-five patients having hepatic coma. Thirty-five of these were treated by protein withdrawal plus a diet of 1500 calories coming from glucose. Sugars were given to some, depending on the state of the patient. Dextrin and dextro-maltose were used. Others received ten to twenty percent glucose in orange juice through an intra-gastric tube, and several received intravenous infusions of glucose, with supplements of potassium and tetracycline in doses of one to two grams by an oral tube. In the thirty-five patients treated with protein withdrawal, recovery occurred in thirteen patients. This is a remarkably high percentage. Nothing like this has been reported previously. Their poor results were in those patients who very high levels of serum bilirubin. Their good results were in those who had low levels of serum bilirubin. In thirty patients treated with protein feeding, supplementary measures were used such as aspartic acid, glutamate, and cortisone. Of the patients receiving cortisone, they had one recovery in twelve patients. In the August issue of *Gastroenterology* seven patients were reported in whom a temporary effect was achieved in four. However, death eventually occurred in all of these patients.

So our present regimen for the treatment of hepatic coma, which seems best to us, consists of complete protein withdrawal, wide-spectrum antibiotics, such as tetracycline or neomycin, maintenance of electrolyte balance, glucose or sugar administration orally or intravenously, and an intake of 1200 to 1500 calories. Cortisone is used only in desperation and as a last resort. If we get no results in twenty-four hours with a high dosage of 900 mgms. a day, we are then inclined to believe we will not get any results, and the drug is stopped.

This patient went rapidly into hepatic failure. She was conscious for one day and then sank rapidly into coma. The exact cause of her death we do not know, because we did not have a post-mortem, but apparently she was made much worse with the addition of high protein and Solu-cortef.

DR. LONG: I want to ask you a question or two. You said that in desperation you would give a corticoid. Actually, in your opinion, is there any real evidence that the corticoids help —statistical evidence?

DR. LEHMAN: No, there is none.

DR. LONG: Well, you see, Dr. Lehman says no. I don't think it should be given. I think we are wasting the taxpayer's money in this hospital when we do that, and as the taxpayer is going to get increasingly taxed in New York City, anything we can save for him will be for the good.

Now, another thing. You spoke of either tetracycline or neomycin. Which would you prefer?

DR. LEHMAN: Well, tetracycline has an effect on some of the infesting bacteria and no effect on others, while neomycin has. Appar-

ently, it is the considered opinion that a combination of both would be satisfactory.

DR. LONG: The reason I wanted to ask that particular question was for my own information. If I were trying only to eliminate intestinal bacteria, I would prefer to give patients something that was not absorbed, which had little chance of producing sensitization or anything else, so with neomycin you get practically no absorption, and I notice that the surgeons in this country are using a combination of neomycin and streptomycin by mouth when they are preparing the bowel for surgery, because streptomycin has an effect on gram-positive bacteria as well as on the gram-negative bacteria, and you here have two in combination. I think we don't have to worry about any toxic reactions in these particular patients because we are doing something heroic to begin with. We don't have to worry too much about superinfection and colitis. I, myself, prefer neomycin for eliminating bowel bacteria.

Are there any other questions?

There were none.

CLINI-CLIPPING

FOOT DEFORMITIES

A. Talipes Valgus
B. Talipes Varus
C. Talipes Calcaneus
D. Talipes Equinas



HYPNOSIS in Medical Practice

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Until recently most physicians have regarded hypnosis with lifted eyebrow and considerable skepticism. But with the publication of many articles in both popular lay magazines and in various medical journals, many physicians are wondering if they may be neglecting something which may have practical value. Throughout its entire modern history, hypnosis has been scorned officially by the medical profession. Despite this attitude, some few physicians have always utilized hypnosis because they have been convinced through experience of its great value. Often this has been in the face of the disapproval of their colleagues sometimes amounting to actual persecution.

The official attitude of organized medicine, however, has been reversed recently. In 1955, the British Medical Association adopted the report of a committee which had made a thorough study of hypnosis and strongly urged physicians to learn how to use it. The report recommended that hypnosis be taught in all medical schools. No doubt this change in attitude in Britain influenced our own American Medical Association, for it, too, appointed a committee to study the situation. At the San Francisco convention in June, 1958, this committee brought in its findings which were essentially the same as those of the British committee. The convention adopted the report and went on record as recommending that hypnosis be learned by physicians.

To many it will be something of a surprise to learn that over five thousand physicians and about the same number of dentists have taken courses of instruction in hypnotic techniques. Applying them, they have found hypnosis valuable in varying degree in every medical specialty. Its more obvious applications are in psychotherapy and as an anesthetic agent in some situations, such as childbirth, and where drug anesthesia is contraindicated. Yet the allergist, the dermatologist, the internist, the orthopedist, the urologist, and certainly the general practitioner, all find hypnosis of very real value for some of their patients.

Courses on hypnosis in medical schools are still almost non-existent, though several dental schools have given extension classes in "hypnodontics." A very few universities have also offered extension courses—University of California at Los Angeles, Long Island University, University of Kansas, and a few others. But most professional men who have studied the subject have attended small private classes or symposia which have been given in cities all over the United States by a panel of physicians, dentists and including this author. The interest shown in such courses is indicated by the at-

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tendance, which has ranged from forty to two hundred. Admission to these symposia is restricted to physicians, dentists, and psychologists. Many of the meetings are sponsored by medical or dental groups, but they have been given without sponsorship wherever enough interest has been indicated.

Misconceptions about hypnosis are usual and are held by the public and professional men alike. For instance, almost everyone expects hypnosis to produce unconsciousness—that one will pass out under hypnosis. Actually, there is complete awareness even in a very deep trance. The subject knows just what is happening, and what he does. Often this is confusing and the subject is likely to think he has not been hypnotized because so little sensation is involved. If a deep state is reached, there is greater realization.

Many of the false ideas about hypnosis result from witnessing stage or television demonstrations. These are barred by law in most countries, as they should be, but not in the U.S. It is part of the stage hypnotist's stock in trade to be able to select good subjects from those who volunteer. Normally, only about one person in five can ever reach a deep trance state, and only about one in ten, will do so in the first attempt at induction. But the stage hypnotist is able to select these almost unerringly, and to the spectator it appears that anyone can be readily hypnotized and in the power of the hypnotist. Volunteer subjects seem to carry out ridiculous suggestions because they believe they must. In fact they do so only because they think they must, or because they are exhibitionists enjoying themselves thoroughly. A suggestion to do something they would find definitely objectionable would never be carried out.

Fortunately for medical purposes, a deep hypnotic state such as is employed in stage hypnosis is not necessary. About ninety-five percent of individuals can be hypnotized, even if only lightly.

Other false ideas are prevalent. The subject is not in the power of the hypnotist. If this were true, hypnosis would be very dangerous in unscrupulous hands. No one's mind was ever weakened through being hypnotized. There is no tendency to say anything under hypnosis that one would not want to say—to tell a "state secret." This is often a fear entertained by women.

As a matter of fact, spontaneous states of auto-hypnosis are so common that probably all of us slip into a trance many times each day. But these states are not labeled hypnosis. Williams[1] has described these spontaneous states and mentions that day-dreaming, becoming engrossed in a book or while watching a movie or TV show can produce auto-hypnosis. Attending a lecture, or a religious service also can do this. Sometimes only a light trance results; it may be a deep one. There are other situations which also produce spontaneous hypnosis. With the monotonous hum of the motor and the eyes fixed on the white line of the road while driving, it is easy to slip into hypnosis — which has been termed "highway hypnosis." Such a state may be dangerous and many accidents have resulted because of it. Interestingly, suggestion under hypnosis can serve to prevent this from happening.

Among other misconceptions about hypnosis is one held by most psychiatrists and psychoanalysts—that hypnosis has little value in psychotherapy. Other physicians hear such statements and tend to accept them as authoritative. It should be remembered that a knowledge of psychotherapy does not necessarily mean that the therapist has the slightest knowledge of hypnosis. Unfortunately the tendency often is for the therapist to imply this and to speak with authority although he may never have read a single article on hypnosis. Many psychiatrists have not read anything about hypnosis or have ever seen it demonstrated. Invariably those who have studied it believe that its techniques are of the utmost value in psychotherapy.

Hypnosis is not a method of therapy. It is merely a tool. With the techniques which hypnotic phenomena make available, the time involved in psychoanalysis could be shortened tremendously. The attitude of most psychia-

trists has been influenced by the fact that Freud used hypnosis in his early research and practice, and then abandoned its use. Therefore it has been concluded that if Freud found it of little value, nothing can be gained from studying hypnosis. Freud's own writings have explained his attitude, as Kline[2] has discussed. Freud was a very poor hypnotist and knew little about it. His associate, Breuer, was one of the greatest medical hypnotists of his time. Freud engaged in controversy and rivalry with Breuer and could not tolerate inadequacy in himself along a line where Breuer was so proficient. He therefore sought other techniques and methods. Yet Freud stated that if psychoanalysis was ever to be made available to the masses, it would have to be through hypnosis. It has been most unfortunate that his rejection of hypnosis has so greatly influenced medical opinion.

Greatest interest in hypnosis among the medical profession was in the period from about 1880 to the early part of the twentieth century, until Freud's theories began to be accepted. During this time, hypnosis was used simply to suggest away symptoms or disease. No other method of psychotherapy had been available until Freud, and suggestion therapy proved efficacious in many conditions, not only in functional illnesses, but sometimes in organic ones.

It is surprising how many psychotherapists commenting today about hypnosis refer to it as suggestion therapy. It is commonplace to hear such a statement as "hypnosis may have some slight value but if you suggest away a symptom a worse one may form." Today, hypnotherapy is conducted along analytic lines, using hypnotic phenomena to learn the causes of neurotic or psychosomatic conditions. The techniques and phenomena available seem unknown to many psychotherapists. Yet these provide shortcuts which are invaluable. Hypnotic techniques may be used with any form of psychotherapy be it orthodox Freudianism, or any other. However it certainly is not a panacea.

Today, every physician realizes that the mind influences the body and that stress can cause disease. It is difficult to say with any accuracy how much illness is psychosomatic but certainly the percentage is large. There are too few psychiatrists, and analysts, and clinical psychologists to treat even the millions of psychotics and neurotics, let alone psychosomatic illnesses. The answer to this situation is that other medical specialists and particularly general practitioners must learn to treat these patients, and with brief psychotherapy, rather than by treating symptoms with drugs. The general practitioner or specialist does not need to become a trained psychotherapist in order successfully to treat such conditions. Certainly he should have some basic knowledge about unconsciously motivated behavior and of the principles of psychotherapy. Hypnosis with brief psychotherapy can be the basis of successful treatment. Learning to use hypnosis clinically will include to some extent the learning of the rudiments of psychotherapy. It is not a difficult or lengthy matter. The general principles involved in psychotherapy can be readily learned by anyone who has had medical training and some excellent books are available.[3, 4] Nor does hypnosis require lengthy study. Much can be learned from some of the excellent texts,[5, 6, 7, 8, 9, 10] but a course of instruction which need involve no more than twenty-five hours is far more adequate.

Hypnotic techniques available to the physician in general practice are readily handled without the necessity of long training. And safeguards are available which minimize any dangers that might be involved. The use of suggestion in the removal or suppression of symptoms has been mentioned. This has been criticized on the basis that the symptom will probably return or a worse one may form as a substitution. This is a valid criticism, although the experience of the old-time medical hypnotists definitely shows that it is greatly exaggerated. But all danger of this can be avoided if the suggestions given are made permissive rather than given as commands. Basically this means "you can," rather than "you will." Symptom removal by suggestion has a

definite place in brief psychotherapy, though undoubtedly analytic methods are better. If suggestions are permissive, the symptom will persist with no harm done, when there is a strong enough need or motivation for the symptom. Often original causes are no longer active, or the need is not too great, and the condition then can be terminated by the suggestions.

The basis of analytic psychotherapy is to bring out the causes for any condition or symptom. Uncovering techniques available with hypnosis involve various phenomena. In orthodox analysis the analyst must wait for the patient to bring in a dream to utilize dream analysis. With hypnosis, dreams can be produced by suggestion either at night or while the patient is in hypnosis. A hypnotized person often can interpret the meaning of his dreams, or even those of others. Interpretation can be aided by having the hypnotized person dream the same dream again, or two or three or four times again, but with a different form each time. Predetermined symbols can even be suggested so that interpretation is easy.

Projective techniques permit depersonalization for the subject. Past events may be witnessed on an hallucinatory or an imagined TV or motion picture screen. The subject can be caused to see imagined handwriting on a blackboard, or actual automatic writing can be developed.

When traumatic events are involved as causes for neurotic or psychosomatic conditions, the hypnotized patient can be regressed to the incident and caused to relive it. This permits a discharge or catharsis of the emotions which are tied up in the trauma.

The usual technique in analysis of "free association" can be used under hypnosis and is then much "freer." There are many other techniques which can be utilized.

Most people today are aware that there is an unconscious or subconscious part of the mind. Not so well recognized is the fact that this part of the mind thinks and reasons, though somewhat differently than our conscious reasoning. This is readily demonstrated by means of automatic writing where one's hand may write lucid material without any conscious knowledge of what is being written. A variation is to communicate with the unconscious mind by means of signals—a form of ideomotor activity. This involves asking questions worded so they can be answered "yes" or "no." Replies are made by the patient through unconsciously controlled movements. This technique I have described elsewhere.[11]

Such a questioning technique may be of the utmost value in medical practice in psychotherapy as an uncovering device. It may be conducted either in the waking state or under hypnosis. It even provides a safeguard for the physician who lacks a thorough knowledge of psychotherapy, and who might find himself in difficulties with a patient by perhaps getting too deeply into the patient's subconscious area. Sometimes symptoms generate from traumatic experiences which are buried as too disturbing to be faced. This applies also to repressed conflicts. In investigating a past trauma or conflict, the unconscious mind may be asked if it is safe to bring the matter to consciousness. If the answer, by these movements, is "no," undoubtedly the patient should be referred to a qualified psychotherapist. If "yes," the physician is on safe ground and will be able to handle the situation.

With official medical acceptance of hypnosis, combined with the more advanced dental acceptance, many popular magazine articles are appearing and still others are planned. This leads to greater popular acceptance and a change in viewpoint through correction of the many misconceptions about hypnosis. For example, many dentists and obstetricians are having patients inquire whether they use hypnosis. Psychiatrists are having the same experience. And the patient who has read about hypnosis may demand such treatment and seek until he finds such a practitioner, which is not difficult in most cities.

Local medical associations are also receiving many such inquiries, asking to be referred to hypnotic practitioners.

Hypnotic techniques may be found useful in the treatment of many functional or psycho-

genic illnesses, as well as psychoses and neuroses. It would seem unnecessary to list here all the conditions which may be associated with psychosomatic disturbances but a few might be mentioned in which hypnosis has been found efficacious.

This would include many respiratory conditions such as asthma, sinusitis, emphysema; various forms of skin disease and allergic illnesses, ailments of the digestive system such as peptic ulcer, colitis, constipation, anorexia, obesity; and of the genital system including impotence, frigidity, infertility, habitual abortion, nausea of pregnancy, dysmenorrhea, and other menstrual disturbances. There are many others —headaches including migraine, bursitis, arthritis, torticolis, tic doloreux, hypertension, psychogenic epilepsy, alcoholism, drug addiction, to name only a few which may benefit from hypnotherapy.

From this list it will be seen how frequently the general practitioner could supplement the usual treatments with hypnosis, either as suggestion therapy or along hypnoanalytic lines.

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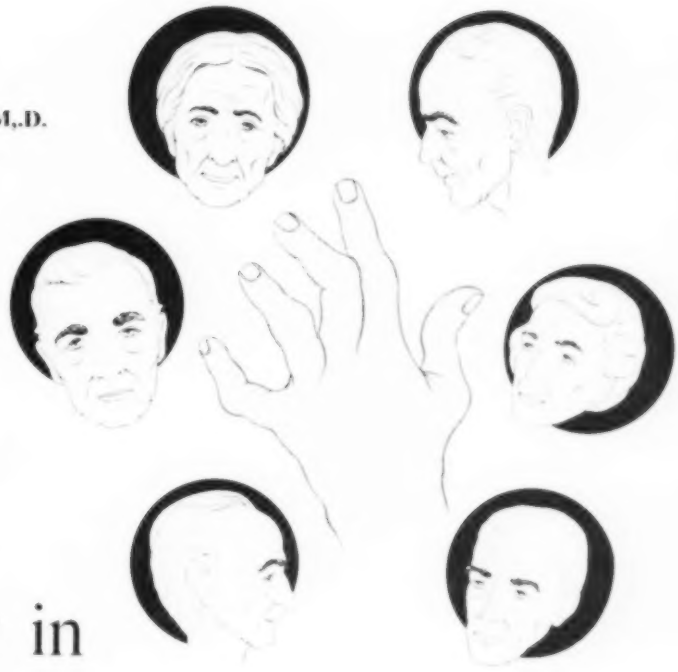
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Current Drug Therapy in RHEUMATOID ARTHRITIS

Drug therapy today in rheumatoid arthritis remains empirical despite the vast amount of research of recent years. Until such time when the etiology of rheumatoid arthritis is discovered there will probably be no specific therapy. Today drug therapy as part of the overall management of the patient has to be individualized.

The primary purpose of drug therapy is to control the disease process; that is, to stop the activity of the disease, and induce a remission. Analgesia is another important function of drug therapy since pain and joint stiffness are the most prominent symptoms of the disease and lead to disabilities. Drugs have an important role in suppression of acute inflammatory manifestations so that the necessary physiotherapeutic measures may be carried out to avoid the crippling terminal stages of the disease process. In treating the total patient, drugs are employed to maintain nutrition, as in the use of iron and vitamins, and to control the patient's disturbed psychological state, as with "tranquilizers" and sedatives.

In considering the use of drugs for the control of disease process it is axiomatic that the earlier treatment is begun the greater the chance of favorable response. Yet so often in the early stage of rheumatoid arthritis, the signs, symptoms and laboratory data may be too equivocal for the physician to establish a diagnosis. The American Rheumatism Association classifies rheumatoid arthritis into four stages: Stage I, early, to Stage IV, far advanced.[1] To be most effective treatment should be started in Stage I or Stage II; that is, before irreversible pathological changes have taken place and deformities have developed. Drugs

TABLE 1

GROUP	CORTISONE, MGMS.	HYDROCORTISONE, MGMS.	PREDNISONE OR PREDNISOLONE, MGMS.
Children	< 10	< 7.5	< 2
Adolescents	10–15	7.5 –10	2–3
Postmenopausal women	20–30	15–25	3.5–5
Premenopausal women	30–37.5	25–30	5–6.5
Adult men	37.5 –50	30–40	6.5–9

Symbol < indicates "less than"

Table taken from "Diagnosis, Treatment and Prevention of Chronic Hypercortisonism in Patients with Rheumatoid Arthritis", Charles H. Slocumb, Howard F. Polley, L. Emmerson Ward and Philip S. Hench, *Annals of Internal Medicine*, Vol. 46, No. 1 (1957) p. 97.

cannot reverse the changes produced by eroded cartilages and dislocations secondary to the disease.

In the early stage of the disease or during the period of observation before a diagnosis is established, it is generally accepted that salicylates are the best form of therapy. Should salicylates prove inadequate in the control of the disease process as manifested either by appearance of newly involved joints or persistence of, or increase in, pain and swelling of preexistant involved joints, gold therapy should be instituted. Most authorities believe that where tolerated, this is the most effective means at our disposal to induce a remission in a large percentage of cases.[2] Should there be no favorable response to this gold therapy after an adequate trial period, or should the gold injections be discontinued because of toxic reactions, systemic steroid therapy may be instituted to suppress the disease to a tolerable level for the patient. If this cannot be accomplished with accepted low dosage schedule for long term therapy, steroids should not be used. One may then attempt to suppress the disease with the currently accepted dosage schedule of phenylbutazone. Neither steroids nor phenylbutazone alter the natural course of the disease. Their action is suppressive. Investigative work is presently going on in the use of chloroquin and hydroxychloroquin in rheumatoid arthritis. Their use should be regarded as experimental until further data is available. The natural history of this disease with its unpredictable remissions and relapses makes the quick evaluation of the effectiveness of the new drugs difficult. Long term studies are necessary to prove or disprove impressions gained in short term observations. In the following paragraphs, I will discuss these various drugs in further detail.

Salicylates

These continue to be the most widely used of the anti-rheumtaic drugs. They are generally prescribed in the form of aspirin or sodium salicylate. The usual effective dose is .6 grams four times a day. This may be increased to the point of tolerance if necessary. In case of gastric distress buffered aspirin (Bufferin®, Ascriptin®) may be used. Enteric coated salicylates can be employed where delayed action is desired.

In instances of sensitivity to salicylates, phenacitin .3 grams four times a day produces comparable results; sodium gentisate in proportionate dosage also produces effects similar to aspirin. Higher blood salicylate levels may be obtained with the addition of para-aminobenzoic acid (Pabalate®). The advantages, however, of such medication have not been consistent.

The most notable results in the use of salicylates and related compounds in the treatment of rheumatoid arthritis have been in the relief of stiffness and pain. It is not felt that this group of drugs induces a remission. The actions of these drugs are considered to be on the indi-

vidual cells diminishing the fluid content slightly, and on the thalmus and hypothalmus.

Chrysotherapy

Gold salts in the treatment of rheumatoid arthritis have been used widely in this country for over twenty-five years. This form of treatment is considered generally to be our most effective agent in controlling activity of rheumatoid arthritis. As with most forms of therapy, results are best when treatment is instituted relatively early in the disease.[3] To date there is no satisfactory explanation of the mechanism by which gold acts in the body.

The preparations that are widely used are Myochrysine® (Gold Sodium Thiomalate) and Solganal® (Aurothioglucose). These are soluble gold salts containing fifty percent metallic gold. The injections are given intramuscularly. It is advisable to start with a small initial injection of 10 mgms. for the first two injections in case the patient has a special idiosyncrasy to the drug. Then the dose is increased to 25 mgms. and all the subsequent injections are in 25 mgms. doses as follows[4]:

- First six weeks one injection twice a week
- Second six weeks one injection a week
- One injection every two weeks for six doses
- One injection every three weeks for six doses
- One maintenance injection every four weeks continued indefinitely.

This maintenance regimen has been found to be superior to a schedule of interrupted courses which previously resulted in a high incidence of relapse. The 25 mgms. dose intragluteally appears in most cases to be adequate with a minimum of side reaction.

Should there be no response after one and a half to two grams of gold salts have been administered, the likelihood is that the patient will not respond and gold should be discontinued. Generally no response is discernible until at least 300 mgms., and in most cases 500 mgms., have been administered although occasionally a patient may respond sooner. Where a patient shows favorable response and later relapses while on maintenance therapy, the frequency of injection and dosage should be increased. Smith et al. have recently shown that the patient's response to gold therapy is linked to the excretion rate of gold. He has found that where the patient's response to gold was inadequate there was an increased excretion and therefore less retained in the body. Smith suggested that, in such cases where the ordinary maintenance therapy does not appear to be adequate, the maintenance dose be increased cautiously. In his experience the maintenance dose had, on occasions, to be increased to 50 or even 100 mgms.[5]

The following complications, in the order of their frequency, have been observed: pruritus and rash are by far the most common, followed by stomatitis and glossitis, gastrointestinal disturbances, thrombocytopenia, agranulocytosis, anemia, encephalopathy, neuropathy and, rarely, nephritis and hepatitis. At each visit the patient should be questioned as to the presence of pruritus, metallic taste in mouth, or burning of tongue. He should be observed for skin rash, and a complete blood count, including thrombocyte count and urinalysis, done.

The most common reaction to gold is in the skin. Fortunately, in most cases, pruritus precedes the eruption by several days or even weeks and serves as a warning to the physician. It is therefore important that the physician inquire of the patient at each visit whether or not there is pruritus. If it is mild a reduction in dosage may be enough to forestall the appearance of the rash. However if the pruritus is severe the drug should be discontinued until the pruritus has disappeared entirely and then the drug cautiously resumed in small doses. Also, during the course of gold therapy, should a questionable rash appear, the presence or absence of itch is helpful to the physician in determining whether the rash is related to gold. However any rash occurring during the course of gold therapy must be regarded by the physician as possible gold toxicity. Though the rash may appear at any time during the course of gold therapy, even in the first week or two of therapy, it is more likely to appear after three or four hundred mgms. of gold salt have been injected. The toxic rash may take any number

of forms. The lesions may be discrete and rosaceous like pityriasis rosea or eczematoid or vesicular or purpuric (with or without thrombocytopenia), or resemble lichen planus in appearance.[9] In its severest form the toxic dermatitis may be exfoliative and generalized. Alopecia has also been reported. Exposure to sunlight may aggravate the dermatitis. In general it is wise to caution the patient against excessive exposure to sunlight during the course of the chrysotherapy. In most instances the rash is mild and discontinuance of the gold will result in complete subsidence. In the more severe cases healing may be slow with scarring. Because of the slow excretion of gold, (estimated at about one mgm. per day) toxic reactions may be prolonged.

At the first sign of toxicity, the gold injections should be discontinued. If the reaction is mild, injections may be resumed at a lesser dose after two to three weeks. In most cases mild reactions do not interfere with continued administration of the gold. If a patient demonstrates marked reaction to the initial small dose, the drug should not be administered again. Severe reactions with the present dosage schedule are infrequent and the drug, if properly administered, can be used effectively in a large percentage of rheumatoid arthritics. It is interesting to note that patients who develop a toxic reaction to gold generally have a good therapeutic response. Therefore it is wise to treat the toxicity with steroids and reserve the use of BAL (British anti-lewisite) which neutralizes the gold, for those cases that steroids do not help.

There are certain contraindications to the use of gold. It should not be employed in instances of systemic lupus erythematosus, active renal or hepatic disease, ulcerative colitis, blood dyscrasia, or hemorrhagic tendency. It should be used cautiously where a history of previous serious allergic reaction or drug idiosyncrasy is obtained or in instances of severe seborrheic dermatitis. It should also be used cautiously, in small doses, where there has been previous reaction to gold, if such a reaction were mild. It should not be attempted at all if there is a history of serious prior reaction to gold. It may be used in patients of all ages. Diabetes does not appear to be a contraindication, nor heart disease if controlled. However caution is advised when gold is used in such patients.

Steroids

Steroids are capable of producing prompt and dramatic improvement in patients who have rheumatoid arthritis. As is well known, this is not a specific treatment. Steroids are employed in a wide variety of diseases. Their effect is not curative but suppressive. Pathological changes characteristic of the disease proceed while under the administration of the drug despite the clinical improvement of the patient, and the patient should be warned, therefore, against abusing the joints. These are potent drugs with many undesirable side reactions. Their use, therefore, in rheumatoid arthritis is limited. They should be used to give the patient a measure of comfort when pain and disability are marked. In most instances, if an attempt is made to eliminate the symptoms completely, the dosage required is too high with resultant complications. However, during periods of an acute flare-up of the joint symptoms these hormones may be used in somewhat larger doses to control the acute distress for short periods of time. Also, in patients suffering from marked systemic effects of rheumatoid arthritis, steroids may be used in large doses. These drugs are frequently found to be helpful in maintaining the patient in moderate comfort so as to permit a program of therapeutic exercises and other measures for rehabilitation. Also steroids may be employed in small doses until the effect of slower acting drugs, such as gold, becomes manifest.

The oral preparations of steroids are preferred in treating rheumatoid arthritis, such as cortisone, hydrocortisone, prednisone and their analogues. Since ACTH is only effective parenterally, its disadvantage for long term therapy is obvious. Its periodic use during long term oral steroid therapy has been suggested to offset adrenal gland suppression. However this is not an established procedure. The products avail-

able for use incomparable doses follow:

1. Cortisone acetate (Cortone Acetate®) tablets 25 mgms. This is also available for parenteral use.
2. Hydrocortisone (tablets Hydrocortone®) 20 mgms. The acetate of Hydrocortone is also available for parenteral and intra-articular use.
3. Prednisone in 5 mgms. tablets as Meticorten®, Deltra®. Prednisolone 5 mgms. tablets as Meticortelone®. The Prednisolone products are also available for parenteral and intra-articular use.
4. Triamcinolone 4 mgms. tablets (Aristocort®, Kenacort®).
5. Methyl prednisolone (Medrol®) 4 mgms. tablets.

Most of the above products are also available in fractional dosages.

The dosage of steroid required will vary according to the individual susceptibility and the severity of the disease. The drug should not be used at all in the mild instance of disease, and in the moderate to severe instance generally a tablet of one of the above drugs given three or four times a day for the first week or ten days should be sufficient to produce satisfactory suppression of the activity. The dose should then gradually be lowered in stepwise fashion until the minimal maintenance dose is reached. This would be subject to subsequent alteration depending upon the clinical picture or complications to the drug therapy.

When effective, corticosteroids produce a reduction in the signs and symptoms of the disease. However there are patients who are unresponsive initially as well as patients who do not maintain favorable response even to increased dosages on a long term basis. As a rule relapse occurs when therapy is discontinued. In general, the severer the case the less the response to the hormone. Where effective, the functional improvement is impressive. When withdrawal of the drug is indicated, it should be done very gradually over several weeks in order to avoid withdrawal symptoms related to hypoadrenalism, such as asthenia, mental depression, anorexia and tachycardia, as well as a flare-up of the rheumatoid picture. ACTH at this time may be helpful.

Complications of corticosteroid therapy are: 1. induced hyperadrenalism (Cushing's syndrome) as manifested by obesity, moonface, buffalo hump, hirsutism, acne; 2. electrolyte imbalance with sodium retention and potassium loss; 3. hypertension; 4. hyperglycemia; 5. osteoporosis and fractures; 6. psychoses; 7. bleeding and perforated peptic ulcers; 8. hypercortisonism.

Hypercortisonism is a syndrome described by Slocumb[7] seen most frequently in postmenopausal women. This syndrome is found only in rheumatoid patients who have been treated with steroids. It is characterized by cyclic increased fatigue, emotional instability, and generalized muscular and joint aching. A picture of disease resembling lupus erythematosus or periarteritis nodosa may subsequently develop. This is the result of chronic hormonal over-dosage and is treated by gradual reduction of steroid and rest, often in bed. Slocumb has recommended the following total daily dosages as maximal in long term therapy in rheumatoid arthritis to avoid this syndrome. (Table I).

The threat of acute adrenocortical insufficiency in patients on steroid therapy in times of acute stress must be emphasized. The patient being considered for surgery should receive large doses of steroids prior, during and after the operation. These may be given orally or parenterally in doses as high as 300 mgms. of hydrocortisone on the day of the operation and gradually reduced.

The clinical response to the various steroid analogues is essentially the same in comparable dosages. However the newer drugs in many instances have altered the complications. Prednisone and Prednisolone have very little sodium retaining properties hence hypertension and edema are minimal. However the incidence of peptic ulcer formation is greater with these drugs. Triamcinolone has virtually no effect on the electrolyte balance and according to Hartung has resulted in fewer peptic ulcers and psychoses. He considers this to be the steroid of choice to date.[5] Medrol® also appears to be

less likely to produce ulcers according to other investigators.

Intra-articular steroids are very helpful when the predominant involvement is limited to one or a few joints. The most effective drugs are hydrocortisone or prednisolone TBA (tertiary butyl acetate) in dosages varying from 15 mgms. for a small finger joint to 50 mgms. for a knee joint. Injections may be repeated every week or two depending on the response and necessity. Often one injection will produce a sustained effect. The physician should be fully acquainted with the technique before attempting such procedures in order to avoid traumatizing the joint, and of course strict asepsis must be observed. The patient should be warned of a possible temporary flare of pain following the injection which may last from one to twenty-four hours. Recently Norcross found that large doses of the drugs such as hydrocortisone acetate 150 to 300 mgms. intra-articularly gave superior, lasting results."

Phenylbutazone

Butazolidin®, (3,5,dioxo-1,2,diphenyl-4-n-butyl pyrazolidine) was synthesized in 1948 and introduced for clinical trial in 1951. Its effectiveness as a potent analgesic agent has been well documented. Its anti-rheumatic properties, however, have been questioned by several investigators and its toxicity emphasized in numerous studies. It is rapidly absorbed from the gastrointestinal tract with peak plasma concentration found two hours after ingestion. Generally the drug is no longer detectable in the plasma after seven to ten days although there have been occasional reports of manifestations of toxicity appearing several weeks after cessation of therapy indicating a retention of the drug in the body for a longer period of time. In order to maintain clinical improvement it is necessary to continue the medication, hence the necessity of long term administration in rheumatoid arthritis, a chronic disease. Experience has shown that if favorable response is not evident within one week the patient will not respond to further treatment with the drug and it should be discontinued. Moreover recent long term studies have shown that many patients who improved for the first six to nine months then relapsed while still taking the Butazolidin.

Dosage of the drug in the early days of clinical trial was 800 mgms. daily reduced to 400 mgms. for maintenance. This resulted in a high incidence of toxicity and occasional fatality. Today, as prescribed in rheumatoid arthritis for long term therapy, Butazolidin is used in a dose of 200 mgms. a day (one tablet 100 mgms. b.i.d.) or less if clinical improvement permits. The toxic reactions, though reduced on the smaller dosage plan, still occur with enough frequency and severity to indicate the proper selection of patients for this therapy and their careful supervision throughout the period of medication. Reactions may occur at any time, early or late, in the course of treatment. When a reaction does occur the drug should be discontinued immediately and abruptly and not resumed again unless the reaction is very mild in which case resumption may be attempted at a lesser dose after complete subsidence of the reaction. The edema observed by most workers with the drug is related to sodium retention; (potassium imbalance, however, has not been observed). This same phenomenon is responsible for the related complications of hypertension, congestive failure and cardiac arrythmias. Drug rash may be mild or rarely of the severe generalized serum sickness type indicative of marked sensitivity. Stomatitis has been reported occasionally. Gastrointestinal symptoms occur with moderate frequency and include nausea, vomiting, epigastric pain, diarrhea or constipation. Mild symptoms may be controlled or prevented with antacid. (Recently Butazolidin has been produced in combination with an antacid and is called Alka-Butazolidin®.) If symptoms persist the drug should be discontinued promptly because peptic ulcer formation with perforation and hemorrhage have been reported in many studies. Certainly no patient with a history of peptic ulcer should be given Butazolidin. Cases of jaundice have also been recorded. Bone marrow depression with agranulocytosis and thrombocytopenia was re-

sponsible for several deaths. Also attributed to the drug were cases of fatal aplastic and hemolytic anemia. Mild simple anemia may be explained on the basis of hemodilution rather than hemopoietic depression. Both central nervous system stimulation and depression were reported associated with such complaints as vertigo and/or lassitude.

Phenylbutazone must be regarded as a potentially dangerous drug. In early weeks of treatment the patient should be observed and blood counts and urine analysis performed weekly. The patient should be weighed for evidence of fluid retention and cautioned to communicate with the doctor immediately should sore throat and fever occur, in regard to agranulocytosis. With no evidence of toxicity such periodic studies may be extended to every two and then every three weeks but not for longer intervals. The drug should be used cautiously in diabetics as well as in patients with a history of severe allergy. It should be withheld in the presence of congestive heart failure or where there is a history of blood dyscrasia.

Butazolidin is not curative. Many patients, however, do obtain satisfactory relief with the small doses now recommended. It is effective only as long as blood levels are maintained with continued medication. The decision by the physician to use the drug in rheumatoid arthritis on a long term basis must be undertaken with a full understanding of the risk involved and careful management of the patient planned.

The foregoing discussion pertains to the use of Butazolidin in chronic rheumatoid arthritis and should not dissuade the physician from using the drug for short periods effectively in acute conditions such as acute subdeltoid bursitis and acute gout in the recommended dosages with proper supervision of the patient.

Chloroquine and Hydroxychloroquine

These drugs, with the trade names of Aralen® and Plaquenil® respectively, have recently undergone studies concerning their use in rheumatoid arthritis. They are related to the aminoquinoline compounds and have a known effectiveness in the treatment of malaria. To date reports of their use in arthritis have been inconclusive. A recent report of a well controlled study but with a small group of patients indicates that chloroquine has significant antirheumatic properties.[10] However in this study as in others previously reported, the toxicity rate was about fifty percent and often severe enough to necessitate the withdrawl of the drug. These reactions were gastrointestinal, central nervous system, visual, hemopoietic, skin, and mental. Reactions with equivalent dosages of hydroxychloroquine appear to be less frequent and less severe.[11] The therapeutic effect of these drugs may be delayed several weeks or even months. In regard to dosage, because of the high toxicity with chloroquine at a dosage schedule of .5 grams per day, it is suggested that the drug be given at .25 grams per day; where tolerated hydroxychloroquine may be given 600 mgms. a day (each tablet 200 mgms. three times a day), reduced to 400 mgms. or 200 mgms. dictated by response and/or toxicity. As with the use of any other potent drug, careful periodic supervision is indicated with frequent blood counts and urine analyses as outlined under the heading of Butazolidin therapy. Further long term controlled studies will have to be completed before the therapeutic place of these drugs is established. Because of the slow response to this type of treatment, it will often be necessary to medicate the patient with other drugs simultaneously, preferably salicylates, and if necessary small doses of steroids, to provide relief from pain until such time as the Chloroquine or hydroxychloroquine demonstrates its effect; then these other drugs can be slowly withdrawn.

Sedatives and Analgesics

Patients frequently require minor daytime sedation for the anxiety state that so often is part of the clinical picture. Meprobamate (Miltown®, Equanil®) 200 mgms. to 400 mgms. three or four times a day is often very helpful both for its sedative effect and muscle relaxing property. In addition, a short acting hypnotic such as Doriden® .5 grams may be given at bedtime if necessary. The barbiturates are more

likely to produce undesirable side effects in the older age group. Salicylates and phenylbutazone as analgesics have been discussed above. Stronger analgesics are rarely necessary. Codeine frequently produces undesirable side effects. Synthetic non-narcotics such as Darvon® 65 mgms. may be used occasionally if needed at a time of acute flare-up. However at such time relief of pain is best accomplished with rest of the part or even complete bed rest for a few days.

Supportive Treatment

Maintenance of proper nutrition is an important feature of the overall management of the rheumatoid arthritic. Thus oral multiple vitamin therapy is helpful to supplement a well balanced diet but the arthritic patient does not derive any specific benefits from vitamin therapy whether oral or parenteral. Most patients with rheumatoid arthritis have a secondary anemia which parallels the severity of the activity of the disease. Iron therapy by mouth has been used for many years to combat this anemia. However the hemopoietic response is generally poor as the anemia appears to be related to bone marrow depression. Nonetheless, where indicated and tolerated, iron may be used as ferrous sulphate or gluconate. For convenience the iron and multi-vitamin medication may be combined. If severe anemia is associated with active disease, favorable response to both the anemia and the disease process may be obtained with the transfusion of whole blood.

Ancillary Treatment

In the overall management of the rheumatoid arthritic, though drug therapy has a very important role, the physician must employ the other tools without which successful treatment of the patient cannot be attained. Psychotherapy is extremely important in the long range treatment and subsequent rehabilitation of the patient. This can generally be handled adequately by the treating physician who establishes rapport with his patient. In some cases the patient should be referred to the psychotherapist. Physiotherapeutic measures, primarily those that can be carried out by the patient at home continually, such as therapeutic exercises, must not be neglected if maximum response is to be hoped for. Orthopedic measures such as the application of splints and the fitting of proper shoes are often indicated. Concurrent with medical management the orthopedic surgeon may be consulted in regard to reconstructive surgery to obtain optimum function for the crippled joint, and rehabilitation programs undertaken, supervised by specialists in this rapidly growing field, to return the crippled arthritic to independent daily living and gainful employment.

Conclusion

The foregoing discussion indicates that the drug armamentarium for the treatment of rheumatoid arthritis is extensive but unfortunately contains no specific remedy. The search for an effective even if not specific treatment continues in many centers all over the world. Until the goal is reached, the physician does have drugs at his disposal to ameliorate the disease and in many instances terminate its progression.

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60 East Ninth Street

ON THE FAT-MOBILIZING ACTIVITY OF HUMAN URINE

"A substance or complex is present in the urine of healthy people who have been fasting, which on injection into mice:

1. Increases the total amount of fat in the liver.

2. Mobilizes fat from the fat depots.

3. Appears to increase the total metabolic turnover of fat in the animals.

4. Causes weight-loss without depressing appetite when given over a period of time, the loss being in the form of body-fat and water.

The active material has been partially purified by paper chromatography.

This substance or complex cannot be detected in identical extracts made from the urine of the same people when they are taking a normal diet.

The substance, called here fat-mobilizing substance, seems to be present in the urine in certain conditions, besides fasting, associated with weight-loss."

DR. T. M. CHALMERS, PROFESSOR A. KEKWICK, and G. L. S. PAWAN
The Lancet

Sadism, Seduction and Sexual Deviations

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Sexual deviants often go first to the general physician and non-psychiatric specialist for help. The chief complaint of such a patient may at first glance appear to be far removed from the basic sexual problem and can be deceptively protean in its manifestations. Therefore, this problem may simulate many possible disease entities with symptoms referable to almost all body systems. Like other diseases with such generalized symptomatology, many diagnoses may be made, various treatments instituted, and many doctors often consulted by the discouraged patient before the specific diagnosis is made and appropriate therapy initiated. Unfortunately, in many situations the patients easily become the prey of unscrupulous quacks, cultists, and the well meaning, but grossly misinformed advice of lay friends. In other instances, the detection of the basic sexual illness is made difficult because of the patient's frank deception or denial of his problem. If the physician who is first seen is to be of maximal service to his patient and protect society, he must have sufficient working knowledge of this condition to know when to refer for psychiatric consultation.

Carefully controlled studies to date have failed to offer any convincing scientific proof that constitutional, hereditary congenital or endocrine factors are of any decisive importance in the etiology of the sexual perversions.[1] On the contrary, many investigations by the collaborative technique have pin-pointed other etiological factors in this illness.[2, 3] By the use of a psychiatrist for each member of a family in the initial examination, and in the subsequent therapy, during which there are frequent meetings of the psychiatrists who compare their collected material, it has become possible to trace with precision the mode of onset and course of many of the deviations, as well as to predict with uncanny accuracy, their course and response to treatment. Such studies have shown that the specific deviation in any given case, be it for example, homosexuality, promiscuity, voyeurism or bestiality, stems from an originally disturbed parent (or parent surrogate)—child relationship in which the parent often by many devious means, repeatedly communicates to the child permission for the specific deviation. What makes this problem so difficult and malignant is the fact that when the deviation is

developing, the parent is most often not at all consciously aware of his role in the child's deviant behavior, because the parent acts as he does from deep-seated unresolved conflicts from his own past. Through his child's deviation, the parent can thus achieve a vicarious gratification for his own poorly contained, but consciously forbidden anti-social impulses, and thus obtain relief from the unbearable pent-up anxieties which accompany these destructive impulses. It should be emphasized that this essential process is usually unconscious on the part of both parent and child, who may come from good homes and may display no other gross evidences of anti-social behavior. It would seem that in such instances, the parent's conscience can be completely intact for all the moral values of our society with the single exception of the attitude toward sexual behavior. Just as the child learns from his healthy experiences with the parent those laudable, moral values which society extols, the child, in analogous manner, learns, from his unhealthy experiences with the parent, those warped values which society condemns. The child thus acquires the same conscience structure as the parent. By skillful examination, the experienced physician can almost invariably detect this parent-child mechanism in patients having deviant sexual behavior.[4]

The destructive symbiotic nature of this parent-child relationship is further illustrated by the facts that it is highly advisable to treat both partners for the deviant behavior concurrently, and that if the child alone is treated without attention to the parent's needs and therefore the parent's avenue for the escape of his tensions is cut off, the parent will often develop other untoward reactions such as psychosis, psychosomatic illness, further aggravation of matrimonial problems and/or the unconscious selection of another child as the scapegoat for the relief of the parent's warped passions.

The hostile and destructive nature of this warped parent-child relationship is well illustrated by the fact that the development of the deviation represents nothing less than an annihilation of the patient's capacity ever to form a sincere, comfortable, and friendly relationship with members of his own sex, or a gratifying and warm relationship with members of the opposite sex. Although often treated as love and perhaps superficially resembling a caricature of such a state, it is still a fact that the perversion represents an incomplete or distorted gratification of sexuality. For example, the overt homosexual will often state that he is happy and adjusted to his condition. However, the fallacy of such a rationalization is revealed by the frequent accompanying clinical findings of alcoholism, suicide, paranoid states, psychotic-like outbursts, and flare-ups of various psychosomatic diseases.

The means by which the significant parent unwittingly communicates to his child the warped passions and forbidden thoughts which lie beyond his awareness, are frequently both subtle and devious and often require careful and prolonged study to pin-point. The sick parent may give permission or even encourage the deviation by failure to censure; rapt interest in off-color stories; implied or frank loop-holes for standards of conduct; hair splitting injunctions; constant questioning and checking ostensibly to be sure that the child has not indulged in any wrong doing; inability to set appropriate limits for anti-social behavior; facial expression; double standards of conduct which confuse the child and reveal to him unhealthy alternatives; and out-and-out cheating, lying, and double talk between the deviant patient and various members of his family. What can the effect on the child be when his mother pretends to take issue, and yet smilingly tolerates the presence of the father's album of pornography in the bureau drawer? What will the child learn from his father's repeatedly inviting the neighborhood "queer" to the house so that his son "can learn the truth about these things" (homosexuality)? How can the mother teach her son proper conduct when she can only laugh as she listens to her neighbors' complaint that her son is a "Peeping Tom?" What is the connection between a girl's promiscuity and the fact that her mother used to invade her daughter's

privacy by secretly reading her diary, and then accusing her of intimacies with the various boys she read about. How beneficial can Sunday School lessons and table talk lectures on morality be when the boy's parents repeatedly get drunk, never pay their bills, and leave the boy alone while they stay out all night at wild parties? What is the link between a man's silk stocking fetishism, and his having repeatedly taken his mother's stockings to bed with him as a child with her complete knowledge and tacit consent? Is it a surprise that the patient is a transvestite when his mother and sister took morbid delight in painting his finger and toe nails, dressing him in little girl's clothes, and lovingly combing his long, blond curly hair while the neighbors needled the mother about whether he was a boy or a girl? Is an accusation of repeated sexual assaults unusual when it is known that the patient's contacts with his mother consisted of brutal whippings without apparent reason, and a frank seductive relationship of bathing and sleeping with her until well into his 'teens? What detriment to promiscuity is there in a long lecture punctuated with wry, half smiles, glowing facies, and many vivid details of how "your father had a weakness for running around?"

During the highly impressionable, formative years, the child, being small, helpless and inarticulate, is unable to appraise critically the attitudes and values of his parents on whom he is totally dependent. Unable to distinguish between what is healthy and unhealthy, the child who has repeated experiences with a sick parent, comes to believe and accept the parent's distorted values and modes of behavior as his own. He therefore absorbs all of them, spoken and unspoken, in their entirety. To add to the child's confusion, the parent also has many unspoken anxieties and feelings of guilt that accompany his distorted behavior, and these too, the child comes to accept as his own as he shares the distorted experiences with the parent.[5] Thus he is neither totally aware of nor concerned with the fact that his aberrant forms of behavior may radically deviate from the accepted customs of our culture. Because of this, he remains refractive to the sting of society's approbrium. His attitudes toward sexuality, which are similar to those of the parent, represent only one facet of his entire character structure, which may also reveal difficulties in many other spheres of interpersonal relationships. In such a parent, one frequently also finds inextricably enmeshed with the unconscious proclivities for perverse sexuality, a tendency to deny his repeated acts of seduction perpetrated on the child, and the hostile feelings toward the child which underly and account for these oft occurring distorted experiences.

It should be emphasized that the child is unaware of what is happening and is unable to act other than as his sick parent unconsciously directs. To the child, his parent is always right. It has to be that way if the terrified, dependent child is to get along with his sick parent. Thus the child will accept his parent's denial or unreal explanations of these seductions and the associated hostility, and will accept his parent's clichés: "It's all in your imagination;" "I don't see why you should be nervous;" "You had a normal happy childhood." In this way, the denial of what the child saw, felt, heard, and knew to be real becomes a part of him as do the burdens of the parent's own associated guilty anxiety. Finding himself in this confusing and unbearable situation in which the child must deny his own senses, splitting occurs as he loses the ability to integrate reality with his perception of it. If pushed too far, in this direction of splitting, the child will be on the road to delusion with the nucleus for later psychosis.[9]

From years of painstaking investigations with his adult patients, Freud originally came to the conclusion that actual sexual assaults and even incest by the parent against his child are often the basis of the latter's subsequent emotional difficulties.[7] Although Freud later came to doubt the validity of these earlier conclusions,[8] the voluminous clinical studies of Stekel[9] and London[10] on the perversions, as well as the more recent collaborative investigations have tended to confirm Freud's original discovery. The patient's histories of parental hostile seductions during childhood have been found to be

true and are not merely the retrospective childhood fantasies and thwarted wish fulfillments of the adult patient. The skillful psychiatrist, trained in these new and difficult psychodynamic techniques, will invariably uncover these facts which speak for themselves. It should be emphasized that these are facts, actual experiences in the life of the patient, and not mere unproven theory and armchair speculation.

One of the commoner means of seduction is the open-door policy of "modern frankness" which encourages bathing, dressing, and uncalled-for physical demonstrativeness between the parent and the child of the opposite sex. Thus, during the critical four-to-six year age period when the child is working through his own sexual identification and is developing the patterns for his later attitudes toward the opposite and same sex, he learns a spurious sexuality for his age. This is not the healthy sexuality of the child, who during this period, is, in healthy circumstances, first becoming aware of his body and of the anatomical differences between the sexes. Rather, in such unhealthy situations, it is a sexuality based on adult psychological and physiological conceptions of genitality. The seemingly precocious maturity and sophistication that these young patients often present is deceptive, because their emotional development in the sexual sphere has been arrested or warped, leaving them vulnerable to various sexual disturbances and deviations.

If these unhealthy situations prevail, then, why is it that only one member of the family is affected, while the others who are in the same environment may appear to show no stigmata of perversion? Actually, however, in any given family setting, all the children are not in the same environment since the parental attitudes toward each child are in many subtle and devious ways, often quite different. These varying attitudes depend on the parent's previous experiences with his own parents before him. The child thus often comes to represent some significant interpersonal relationship from the past life of the parent who is often not even aware that he looks upon his child in this manner. When these past relationships were unhealthy and led to unresolved conflicts and pent-up tensions, often hatred, in the parent, the parent then may use this particular child, who he unconsciously identifies with the hostile aggressor (his parents) from his own childhood, as the means through which he may give vent to all these pent-up feelings. Accordingly then, this one child, of all the siblings, is unconsciously chosen as the scapegoat. This mechanism is popularly recognized as "the skeleton in the closet," "the bad seed," and the "the black sheep of the family." The position of the child among his siblings, his name, hair color, sex, shape of nose, and so on, may be the reason that the parent unconsciously equates this child with the significant individual from the parent's own past. Even though the scapegoat child may provide a convenient pseudo-solution for the parent's concealed psychosexual and marital problems, the other children, raised in this sick household, seldom escape entirely. Depending then, on various emotional constellations in the interpersonal relationships from the parent's own past, it is common to find in the other siblings such conditions as asthma, enuresis obesity, impotence, hyperthyroidism, duodenal ulcer, chronic ulcerative colitis, and various character traits.

Case Report One

An attractive, well groomed, middle-aged housewife of good family, came to the physician's office seeking advice for her 22-year-old daughter, Belle, who, following a long series of affairs, had become pregnant out of wedlock. "Joe still sees her, and she wouldn't marry him; he has no job. . . . My husband finally put his foot down and said, 'You're still keeping company with the same kind of people, and you're in a rut'. . . . Joe never spends money on her, tells her that she's spoiled and wants everything her own way. His family's reputation is bad. His mother runs around with other men, and he has no true knowledge of his own father. His mother wants young people around. She's even been in trouble with the police, because she had beer parties in the house. Recently she had some very young fellow staying there—a little

older than her son. I get all this from my daughter. I tried to talk to her and make her see reason, but she is stubborn. We had Joe up to the house, because I wanted to see the kind of fellow he was. He'd have her bring him soda, and, even though she is well along in her pregnancy, he throws her off the easy chair and sits there himself. He'd drink soda and then burp like in a barroom and never say, 'Excuse me.' My husband kept very quiet. He only told Joe, 'I want to have a talk with you,' and then they went for a ride. He told my husband he didn't love Belle, and my husband asked him about working. My husband told Belle, 'That fellow's no good. You're going back to the same ways. If you get married, neither your mother nor I will go to the wedding'. . . . I have such a hard time trying to understand these teenagers, the difference between liking and loving. I told her last year that he did not come from a good family and had no religion. Maybe this pregnancy is well that it happened, because Belle is getting to be a friend of mine. . . . Joe would always disappear one to two hours at parties. I'd ask her what he does when he goes, and she said that he takes a car for rides with girls. I'm afraid he'll now talk her into running off. I said, 'You must be sure to tell me, Belle.' "

These comments plainly show the parent's deep interest, permissiveness and even frank encouragement of their daughter's affair with a sick and sadistic boy. And they have never been able to call a forthright halt to this destructive behavior.

Alluding to her own marriage, Belle's mother blandly stated that she had been attracted to her husband "because he had his own car" and that they eloped and were married after a six-year courtship. She had always been frigid, and "he could do without it; he seldom feels the urge." There had been no coitus in the previous six months. The mother then described Belle's close relationship with her father, "She'd sit on his lap and kiss him. He'd grab her, tickle her and then play 'rough house' with her. She would say, 'You know, Daddy, I'm getting too old for that.' " Belle's younger sister, Mary, was hardly mentioned except to say that she had "many allergies." When the mother was asked to describe her own background, she immediately went into a diatribe against her own father. "He'd fool around with me, but never laid a hand on my younger sister. He had a very bad temper. He was always very suspicious. He had to know where we were, who we were with, what time we'd be home, and then he wouldn't believe us. Once, when I was baby-sitting, he had Mother come and get me at 11 o'clock at night. He must have thought I was staying with some fellow. He even had to see every book that we read. He once felt I had gone sex crazy. I received a present wrapped in a newspaper. He noticed that the wrappings had a column, 'Advice to the Lovelorn.' He raised cain and said he'd kill me if he caught me reading that. Mother blamed me too and said that I should know better." She said nothing else about her mother except that "she'd never yell, but she'd give us a wallop on the ear that we'd never forget." Belle's mother then spontaneously related how she had never gotten along with her mother-in-law "who always bore a grudge against me for not telling Belle about the 'family curse.' Three of my husband's five sisters had illegitimate children, and the other two had hysterectomies as very young women for severe menstrual cramps. One of the daughters went haywire over a crooner and went to many hotel room parties. You'd assume they'd take advantage of a fourteen-year old kid. She then married the crooner's business manager at fourteen, then a divorce, second marriage and, after ten months, a third marriage. Now for all that she's been through, she's a nice decent girl, a good housekeeper who sews her own clothes. To protect Belle, I told her of this cousin. When I noticed Belle going steady, I told her, 'Girls think they're smart and can get away with it. Boys go out with girls only until something happens. I hope you won't be like that.' When she was fourteen, she had her first period. I spoke to her in the attic for two hours. I told her how she could get pregnant and how it's a disgrace. 'I don't want to warn you and threaten you with these things when your I.Q. says that you can

do well.' She asked what happens if she misses a period. I said, 'If you miss it, just tell me, because it means sickness or you have been intimate with someone and you're pregnant.' I asked her if her girlfriends had their periods or if they missed."

It would seem that Belle's mother has an unhappy and unsatisfactory marriage relationship. It should be noted that the hostile, seductive behavior between Belle and her father is analogous to the similar relationship between Belle's mother and her own father. In each instance, the younger sister was not involved in this way, and the older sister served as the scapegoat. It would seem that the father of Belle's mother, with his wife's open condonement, implanted in the mind of Belle's mother the suspicion, even possibility, that she might become promiscuous. In like manner, long before Belle's illegitimate pregnancy, Belle's mother, with her husband's passive consent, implanted in Belle's mind similar possibilities of sexual acting out. Nowhere in Belle's mother's narration of her own interpersonal relationships with any significant people in her life, is there a trace of warmth and kindness. One of the few things she said about her own mother was the "wallop on the ear." Her knowledge of the "weakness" of the women in her husband's family gave her a convenient and admissible alibi for permitting similar behavior in her daughter without the painful need to acknowledge the important role of her own sexual conflicts.

Another interesting point is raised by Belle's mother's incurring the wrath of her mother-in-law by [correctly] refusing to tell Bell about the "family curse." But the same results appear to have been achieved by telling Belle about her fourteen year old cousin's promiscuity and thus revealing to Belle a destructive channel of behavior permitted within the family. Through Belle's promiscuity, therefore, Belle's unfortunate mother obtained vicarious gratification for her own sexual conflicts by using Belle as the outlet for the pent-up hatreds against her own mother. Belle thus was the promiscuous one while her mother acted within the accepted mores of our culture.

Case Report Two

Although originally referred by his family physician for refractive neurodermatitis, it readily became apparent that this 27-year-old patient's problem was homosexuality. He said he had had these tendencies since 7 years of age when he was attracted to the gardener next door, and since then he had had many affairs during his adolescent and college years. "I came out...it became like a drug...found pleasure ...I wondered if I needed help. From majoring in psychology in college, I felt there was no cure. You could only be adjusted to it.... When mother and father were separated a few years ago, I told her everything. She said that the friendship I had for boys was not natural. She said that she knew how a thing like that starts. She knew girls [homosexual] when she was young. She realized I might start something like that for a thrill and would get so mixed up I couldn't get out. Her realism amazed me. I didn't deny it."

During the course of intensive psychoanalytic psychotherapy, many attitudes and life experiences were brought up. Originally, Terry, the patient, had believed that his mother had "sacrificed herself many times" for him. However, when the "sacrifices" were discussed, it was found that the patient became embarrassed, ashamed and anxious, and that these reactions were in some way associated with flare-ups of his neurodermatitis and later, with his homosexual acting out. Terry always was his mother's confidante. "I sat and listened to her problems. She has always discussed sex openly with me, but with others gives the attitude of being a prude." The mother would often give her young son lurid accounts of how she was almost raped in the kitchen during a party, how her guests were noted for swapping wives, and also offered many detailed descriptions of the sexual difficulties, numerous mistresses, and paramours of their acquaintances. She always asked her son's opinion on her clothes and would often call him into her room to talk to him while she dressed. On various pretexts, she exhibited her suprapubic hysterectomy scar at such times. She was forever caressing her son and would glide her

hands inside his undershirt and along his chest, abdomen and buttocks. "How's my big baby? Don't you love your mother? Mother loves her big baby more than she loves Daddy." She would often go into her grown son's room unannounced as he was dressing or undressing. To his demands that "she get out; I want to get dressed," she would answer, "Well, I'm your mother."

In later years, Terry could better recognize these earlier destructive experiences for what they really were. "She repulses me when she touches me. Her caresses are like an invitation. I feel she wants me to do something to her erotically. As if seducing me. . . . There was the silent assumption that I was so young, or neuter, that sex didn't matter to me. She'd run around the house in panties and bra . . ." The mother insisted on accompanying the patient to the bathroom until he was twelve years of age. The mother had the patient bathe with his girl cousin, who was four years older, whenever she visited. This stopped when Terry urinated on her when he was ten years old. From that day until well into adult life, the patient recalled, his was the only bed in the house which had a rubber underpad.

For as far back as Terry could remember, his mother had always encouraged a very close and almost exclusive relationship with his friend Tony. "I'm taking the whole day off. You and Tony do whatever you want. You'll have the house to yourselves." The mother frequently invited Tony to stay overnight with Terry and would laughingly chide, "You two act like a couple on a date. I wonder what you see in each other." Terry recalled his mother's saying, "You don't date anyone—girls, I mean. . . ." "She wanted me to wear a beret in New York. . . . She would close the door to the den when I was there with Tony." The mother frequently reminded her son that she had a seventh sense about Tony and could always tell when he was there. Once when the mother was hurt in an automobile accident, Terry became very depressed, and his neurodermatitis became worse. From her hospital bed, the mother told him that she understood why he could never marry, and would understand his wanting to share an apartment with Tony. He then became closer to Tony than ever before. During her subsequent convalescence, the mother acted in the same openly seductive way towards Tony as she always had towards her son. Terry never went on dates or showed any interest in girls. Once, while discussing this with the physician, he spontaneously related to the occasion when his mother secretly took him to the funeral parlor to see the body of the illegitimate child of their neighbor's unmarried maid. Although Terry was then only six years old, he recalled vividly the horror of that incident. Describing his feelings toward girls, Terry said, "I expect girls to treat me like my mother does. I hate them. I'm afraid of them." As the patient's circle of male friends increased, the mother readily accommodated herself to the situation. There was the revealing occasion when Terry returned home from college for the holidays, and she had a surprise party for him. All the guests were males. There were never any women his age in the house.

The patient's father was a lawyer who was away from the house much of the time. He was a cold, calculating, tyrannical man given to vicious outbursts of temper, during which he lashed out at both his wife and son. "He never complimented me for good grades or anything; he just bawled me out and punished me." He once threw a bottle of catsup at the unsuspecting patient and, at another time, hurled a pair of scissors at his wife. The father was seventeen years older than his wife. The parents each had their own bedroom, and the patient recalled that the father's way of showing affection toward his wife was by whacking her on the buttocks. The patient's unusual relationship with his mother and male friends was apparently never recognized or commented upon by the father.

The patient always accepted his father's excessive punishment without protest or question as an integral part of his way of life. He never had any overtly angry feelings toward his mother except a vague sense of anxiety when discussing her. On one of the rare occasions

when he violently acted out his anger against another human being, he smashed his violin across the back of a schoolmate with whom he had some minor disagreement. When he returned home with his broken violin, his mother remained unruffled and poised. However, that same afternoon, she had him make an appointment for the dentist of whom he was deathly afraid. He blandly asserted that "Mother's unwritten law was pounded into me; never offend or hurt those close to you." Interestingly, the only woman in the family that he got along with was an aunt by marriage, and she was the only woman in the family with whom he had lost his temper.

Although the patient maintained his mother's superficially calm air of sophistication, he had over the years, engaged in many other activities of hostility and sadism than the homosexuality which later became the almost exclusive outlet for his pent-up tensions. He described episodes of fire setting, wringing of little bird's necks, and, immediately preceding his first overt homosexual relationship, repeated episodes of bestiality. He described this latter behavior as giving "the same emotional feeling as intercouse with a man. There is a block between me and girls." When he had no such outlets, his neurodermatitis would become worse. He was constantly alternating between an exacerbation of his neurodermatitis and these various forms of aberrant behavior.

Although many details concerning the parent-son relationship were collected to explain these deviant forms of behavior, very little was said about his parents' backgrounds to enable the physician to hypothesize what might have motivated them to permit and even encourage such behavior by their son. Nevertheless, some significant information about the mother was available. The mother's father was an extremely successful business man who became an alcoholic philanderer after business reverses. Since her own mother was ineffectual and "scatterbrained," Terry's mother would often have to get her father home from saloons where she often found him in the company of "loose" women. When they arrived home, it even fell to her lot to clean him up, help him undress and put him to bed. At such times, he would be very affectionate toward her in a most unnatural, unfatherly manner. She had to go to work and contribute all of her salary for the support of the family. When she was sixteen years old, her father died suddenly, and five weeks later, she married a much older man that she had just met. The patient said, "She never had any love at home, not even after she married father. But, when I came along, she expected me to satisfy all her desires."

Even this incomplete data about the mother's relationships with her own parents would seem to indicate strongly that she unconsciously identified her son with her father whom she had many reasons to detest. How could one expect her to form a healthy natural relationship with a husband when she had so many unpleasant and seductive experiences with her own father? Through the hostile seduction of her own son, she found a warped semblance of what was missing in her marriage as well as a subtle revenge against her father. Thus she preserved her own unstable, emotional equilibrium from erupting into an overt psychosis by discharging against her son all the pent-up hatreds that had been accumulated from her previous experiences with her father.

The therapy of this unfortunate patient was a prolonged, expensive, difficult, and stormy process. But, the important thing was the slow but continuing improvement in this patient's health. The homosexuality and other conditions (including the neurodermatitis) previously mentioned disappeared gradually.

Comment

Sexual deviations are common although they may frequently present themselves under a variety of symptoms. With careful psychiatric study of the patient, it will be found that many of the features described in the above two specific examples are also present in other cases

of sexual deviation. It is a condition which is preventable and often curable providing the physicians responsible for the care of the patient possess an adequate understanding. Specifically, the physician can institute good mental hygiene by insisting on modesty and respect between the sexes in the home and by giving healthy advice and appropriate prohibitions after ascertaining the sleeping, bathing, dressing, and bathroom practices of the family. In his relationship with his patient, by his attitude as well as by his words, the physician should avoid the moral judgement that might put his patient in the class of a Biblical leper. However, he should be careful not to foster unwitting condonement for the continuance of the perversion. Early expert psychiatric consultation will yield specific, etiologic information that will be of significant help in the management of many of the milder cases. However, it must be remembered that the sexual deviations are derived from violent passions and sadism. Sermonizing, intellectual explanations of mechanisms, and the like are of no value. Unless the underlying facts of the hostile, seductive experiences are dealt with in therapy, there always remains the risk of future deviant activity with the ever present possibility of a breakthrough of the sadism into crimes of violence against society or the patient himself.

When such a patient is not anxious and motivated for help, as is frequently the case, careful consideration should be given to means of obtaining permanent hospitalization.

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An evaluation of methyl prednisolone in the treatment of alopecia areata, totalis and universalis

ALOPECIA

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In a previous article[2] I described the treatment of alopecia areata and totalis with the corticosteroids, hydrocortisone, prednisone and prednisolone. In conjunction with the above corticosteroids, injections of corticotropin were given simultaneously at regular intervals to fortify the activity of the adrenal gland.

This study describes the more effective treatment of these scalp diseases with methyl prednisolone (Medrol®), orally.*

This method of therapy is a long term approach and may be associated with untoward constitutional reactions. It was therefore deemed clinically advisable to evaluate a newer corticosteroid which was described as possessing minimal untoward reactions and greater potency by weight. Methyl prednisolone is identical to prednisolone with the exception of a methyl group placed in the sixth carbon position. Animal studies[1,3] have demonstrated the increased potency over prednisolone threefold in its glycogen depositing activity; and two-fold in its anti-inflammatory potency. Sodium and water retention did not develop in the animals studied. It has been also suggested by these same studies that the methyl prednisolone acts as a diuretic and natriuretic agent.

A specific etiological cause for alopecia areata and totalis has not been established; therefore, attempts with many diverse therapeutic modalities have been utilized. Neurologic factors have been implicated because of possible dysfunction of various nerve impulses to the sympathetic nervous system, which innervates the pilosebaceous apparatus, particularly of the scalp. Severe traumatic emotional impacts, as sudden loss of a parent, participation in a near fatal accident, or complete reversal of economic status, have been suggested as a trigger mechanism by dermatologists and psychiatrists.

Greenberg[4] attempted to correlate the frequency of the incidence of psychoneuroses, borderline psychoses and schizophrenia with involutional psychoses with the occurrence of alopecia areata, totalis and universalis. There was no conformation to any single personality pattern, but the majority tend to be withdrawn and passive. Depression or anxiety were frequently noted as prominent factors.

Macalpine[21] states that the incidence of alo-

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FIGURES 1A and 1B. L. C., age 32. December 10, 1954. Alopecia Universalis of ten years' duration. Placed on oral cortisone October 6, 1954 plus bi-weekly injections of 40 Units of ACTH. Slight growth of hair demonstrated two months later, which did not improve on continuous medication. Medication was discontinued and there was a return to complete alopecia.

pecia areata among three thousand two hundred and twenty mentally defective patients was four-tenths percent. In the general population, she believes that two percent of dermatologic patients have the disease.

The dysfunction of the thyroid, pituitary and adrenal glands have been implicated frequently as etiological factors in the production of these alopecias. However, laboratory studies have not corroborated these concepts.

In an earlier article published in 1952, Dillahu and Rothman[1] postulated that hormonal factors may play a role in the clinical course of alopecia areata and totalis, and that they may serve as an initiating mechanism in their onset.

They noticed that female patients having alopecia areata or totalis spontaneously recovered during pregnancy, and then commenced to lose their hair with the onset of menstruation. Thyrotoxicosis may exist simultaneously in its onset with alopecia. The prepubertal alopecia totalis is more severe in its course and termination than the adult alopecia.

These dermatologists suggested, therefore, that the etiological factors involved are related to the retention of water and sodium chloride in the body during pregnancy, which is beneficial to hair production and regrowth, whereas a deviation from normal biochemical functions, as in thyrotoxicosis, may alter basic functions to produce hair loss.

On the basis of the above belief, they used desoxycorticosterone but no regrowth of hair resulted. Subsequently, they tried oral cortisone and reported that they had obtained favorable results. The uniform feature in all of their patients was the commencement of hair



FIGURE 1C. November 16, 1957. Patient placed on Medrol August 14, 1957, 4 mgs. q.i.d. plus bi-weekly injections of ACTH 40 Units. Photo demonstrates satisfactory hair growth of scalp and commencement of eyebrows.
FIGURE 1D. January 13, 1958. Photo demonstrates complete filling in of scalp hair, eyebrows and beard. There is also a return of hair in axilla, chest and pubic area. Blood pressure, urinalysis and general examination negative. Photo demonstrates absence of any features of electrolyte involvement. Hair growth progress continues. Patient continues on residual dose of Medrol, 8 mgs. daily and injections of ACTH, 40 Units monthly.

growth after four weeks of oral corticosteroids. The only patient who failed to respond to treatment was one having prepubertal type.

The metabolic effects of the corticosteroids, cortisone, hydrocortisone, and prednisone are evidenced by the ability of these steroids to initiate changes in sodium chloride and water retention, potassium diuresis, increased excretion of nitrogen and uric acid, and a rise in the blood and urinary glucose level.

On the basis of animal experimentation Menkin[11] suggested the corticosteroids act at the cellular level. He noticed impairment of the activity of the injured cell so that it is unable to produce specific chemical factors involved in inflammatory reactions. These factors are leucotaxine and the leucocytosis-promoting factor. Leucocytosis-promoting factor (LPF) stimulates the formulation of leucocytes from the bone marrow and aids in the mechanism of leucocytosis which accompanies acute and inflammatory reaction.

Jailer and Wallace[17] described the dramatic decrease in 17-ketosteroids, and suggested that a corticosteroid therapeutic effect may be due to its ability to suppress 17-ketosteroid excretion.

In a subsequent paper, Dillaha and Rothman[4] reported their results with twenty-two patients (the majority being the totalis and universalis type) treated with corticosteroids. In sixteen patients there was regrowth of hair which was satisfactory in several from a cosmetic viewpoint.

Andrews,[1] Burgoon,[6] V. H. Witten,[2] and Sulzberger[3] have reported similar satisfactory results in patients who were affected with alopecia totalis.

In England, Wilson[10] described the treatment of four patients suffering from alopecia areata and universalis with intravenous injections of corticotropin. In these instances of complete alopecia there was startling regrowth, particularly of hair of scalp, beard and eyebrows. When the intravenous ACTH therapy is discontinued, a loss of hair and a return of the alopecia totalis was observed eighteen to twenty-one days afterwards.

Huriez[11] and Rony[12] injected a hydrocortisone suspension intracutaneously into the scalps of patients with alopecia areata and totalis, with subsequent regrowth of hair in the areas of injection. However, after several weeks the new hairs were lost from their follicles.

Stimulated by the previously described significant results, I attempted a clinical evaluation of a series of patients having alopecia which eventually reached a total of forty-two patients in October 1956, when the findings were published.[2] The number of these patients under treatment has now grown to sixty-eight.

In the earlier study, twenty-one were male and twenty-one female. The ages ranged from eight to fifty-four years. The duration of alopecia ranged from three months to twenty-five years. There were nineteen instances of alopecia totalis, eighteen of alopecia areata, and five of alopecia partialis.

The above patients were given corticosteroids orally, commencing with cortisone and then transferring to hydrocortisone, prednisone, prednisolone and finally methyl prednisone. They also received injections of 40 units of Zinc ACTH gel weekly early in the treatment, and later, one intramuscular injection of 40 units of Zinc ACTH monthly. It is utilized to prevent the suppression of the adrenal gland function, while under long term corticosteroid therapy.

Of the total number of forty-two patients under treatment, complete regrowth was seen in nineteen patients (forty-five percent) and partial regrowth was observed in twenty-three. When scalp hair growth was noticed, it became visible as early as four weeks after oral corticosteroid treatment. As the hair growth continued at a favorable rate, an attempt was made to establish a maintenance dose at which hair growth remained optimal.

The percentage of undesirable side effects as moonface, acne, rounded back, electrolyte imbalance, weight increase, hypertension, mental disturbances, gastric distress and glycosuria was markedly reduced when prednisone and prednisolone were used. Gastric hemorrhage was not observed in any of the patients.

The usual precautions of complete physical examination, including urinalysis, blood count, basal metabolism and 17-ketosteroid content were conducted before commencement of therapy. A low salt diet was observed. Regular examinations of blood pressure and urinalysis were made. If the basal metabolism, or protein bound iodine was low, thyroid extract, or L-triiodothyronine (Cytomel®) was prescribed in conjunction with the corticosteroid therapy.

The original study was reported specifically to demonstrate that hair follicles which have been quiescent for many years may be reactivated by a specific stimulus, which in this case is the corticosteroid and corticotropin. The modus operandi is still conjectural. The possibility of the removal of an inhibition at the level of the telagen phase of hair growth as suggested by Chase[20] must be considered. This report is merely the commencement of investigative trials which are the result of the cooperative efforts of anatomical, biochemical, physiological, and therapeutic studies in this field.

The conference in London in 1957 entitled "Biology of the Hair Follicle" presented salient findings in the field of hair growth and regeneration.

During the last year and a half, a clinical evaluation of methyl prednisolone was conducted to determine the effectiveness of this

Several of the patients were observed and given injections of ACTH intramuscularly by Francesco Ronchese, Providence, R. I.; Harris Perlman, Philadelphia, Pa.; and Joseph J. Hallett, Rochester, N. Y. I appreciate their cooperation, particularly in treating these patients who were unable to attend the office regularly because of distant residence.

TABLE 1

DIAGNOSIS	NUMBER OF PATIENTS	GOOD GROWTH	PARTIAL GROWTH	POOR GROWTH
ALOPECIA AREATA	23 males 10 females	16 or 70% 6 or 60%	7 or 30% 4 or 40%	
ALOPECIA TOTALIS	8 males 15 females	3 or 37% 8 or 53%	5 or 63% 7 or 47%	
ALOPECIA UNIVERSALIS	8 males 4 females	5 or 63% 3 or 75%	2 or 25% 0	1 or 12% 1 or 25%
TOTALS	68 patients	41 complete (60%)	25 partial (37%)	2 poor (3%)

product upon patients afflicted with alopecia areata, totalis and universalis. Two types of previously treated patients, those who were progressing favorably and those who were reacting unfavorably to cortisone, hydrocortisone and prednisolone, were also placed on methyl prednisolone.

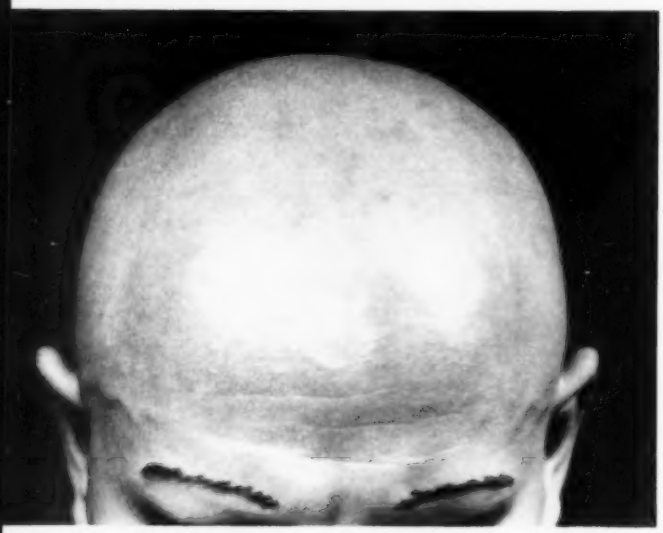
The toxic reactions observed in patients who were on long term corticosteroid therapy have been adequately described in the medical literature previously. There are disturbances of electrolyte metabolism, namely the retention of sodium and excretion of potassium, hirsutism, glycosuria, hypertension, psychotic behavior, increased weight, appearances of acneform lesions and accumulation of adipose tissue in the scapular areas. These ontoward reactions are associated with the production of a Cushingoid syndrome. Osteoporosis in the aged is occasionally encountered.

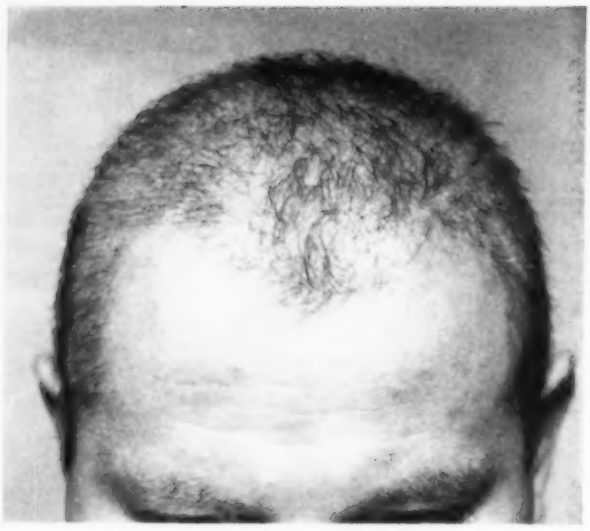
The undesirable effect upon the gastric mucosa with resulting epigastric pain, distress and gastric ulcer and perforation have also been previously described by Dordick.[15]

When methyl prednisolone became available with its clinically described decreased toxicity and increased therapeutic properties, I decided to essay methyl prednisolone analog in this dermatological entity.

The present series consisted of sixty-eight patients having alopecia; twenty-three of alopecia totalis, eight male, fifteen female. The duration of the alopecia ranged from five months to twenty-five years. The results of the therapy indicate that three males had complete regrowth, and five males had partial regrowth; eight females had complete regrowth and seven females had partial regrowth. In seven of the patients in the original series, who were refractory to treatment and demonstrating sparse growth, the subsequent substitution of Methyl prednisolone produced adequate and satisfactory hair growth. Four of this group, who had discontinued therapy because of poor or unresponsive effect of the hydrocortisone and analogs, demonstrated satisfactory growth when treated with methyl prednisolone.

The incidence of untoward reactions produced by methyl prednisolone were surprisingly low. Five of the patients presented acneform eruptions of the face and chest, which abated when dosage was lowered, and strict abstention from salt was followed. In forty percent of the patients, increased weight was observed during the first four to eight weeks. Following initiation of therapy, as the therapeutic routine continued, and diet was strictly observed, weight loss was noticeable. In many of the patients, the weight was less than upon commencement of therapy. In the series of sixty-eight patients, treatment in six patients had to be discontinued after a period of six





months because growth was inadequate, and not satisfactory to the patient or to the physician. The dosage in these latter patients never exceeded 20 mgms. daily.

The pattern of growth usually demonstrated in the patients was as follows: New scalp hair became visible as early as four weeks after the initiation of Medrol therapy. If growth was not demonstrated in this period then dosage was increased from 12 mgms. to 16 mgms., and then to 20 mgms. In conjunction with the intake of this new corticosteroid orally, the use of corticotropin was simultaneously followed as was previously described in the original study.

The chronological order of appearance of new hair regrowth was usually on the face, scalp, eyebrows, body, and eyelashes last. The growth of the eyelashes was always non-predictable, as to permanence and rate of growth. Frequently, when the scalp hair was profuse and remained, hairs of eyelashes and eyebrows were lost or maintained in a bizarre fashion.

Corticotropin is administered parenterally—40 mgms. given at a weekly interval for a period of six weeks, and then gradually diminished to a bi-weekly interval.

If there was no demonstrable evidence of hair growth after six months of continuous steroid and tropin therapy, the treatment of these cases was considered a failure, and the withdrawal of therapy subsequently was progressively slow.

When the hair growth commenced at a favorable rate, a comparative attempt was made to establish a minimal corticosteroid dose, at which hair growth was optimal. This maintenance dosage usually ranged from 8 to 12 mgms. of methyl prednisolone and a monthly injection of Zinc corticotropin—40 units.

In our initial survey suspensions of hydrocortisone T-butyl acetate, and prednisolone were injected subcutaneously into the scalp and many of the patients showed local hair regrowth three to four weeks later. However, this stimulating effect was of temporary nature, the hair was not maintained in the original injected sites, and this type of injection was discontinued in this second survey.

Blood pressure, urine specimens and blood counts were recorded regularly in order to ascertain any early indication of untoward effects as a result of prolonged administration of the corticosteroid. Patients were also ad-



FIGURE 2A. P. G., age 30, November 7, 1956. Alopecia Universalis of three years' duration. Complete absence of hair from scalp, face, eyebrows (pencilled in with eyebrow pencil), axilla and pubic area. Placed on hydrocortisone 20 mg. t.i.d. Responded with slight increase of beard and slight fuzz on scalp.

FIGURE 2B. September 10, 1957. P. G., placed on Medrol March 6, 1957, 5 mgms. q.i.d. Noticeable growth demonstrated on May 15, 1957, when patient was placed on 4 mgms. t.i.d. Patient still on residual dosage. Blood pressure, urinalysis and general examination negative and demonstrates absence of any features of electrolyte inbalance. Note growth of eyebrows and eyelashes.

FIGURE 2C. Features same as 2B. Profile view. Hair growth progress continues.

vised to maintain a restricted salt diet. It was not considered necessary to prescribe potassium chloride in order to prevent a possible hypopotassemia. If there was an excessive weight increase due to fluid retention and increased appetite, the patients were given either thyroid, or cytomel, occasionally dextroamphetamine was prescribed—10 mgms. daily, orally as an appetite depressant. Levonor®, 20 mgms. is also indicated. Chlorothiazide is under study for its diuretic effect.

Of the three children who presented total alopecia for more than five years, one child, aged fourteen, male, a partial regrowth was obtained; the patient is still receiving medication. In four patients mild epigastric distress was originally observed; however with the adjuvant use of an antacid as Titralac®, and an anticholinergic as Pro-banthine® for a period of three to four weeks, the steroid therapy was maintained and the epigastric distress was eased. Corticosteroid therapy without antacid and anticholinergic adjuvants was continued.

In this series of sixty-eight patients there was noted no production of psychotic or emotional disturbances of the patients; on the contrary, many of the patients who were previously despondent and depressed became animated, active and alert. No episodes of severe misbehavior were observed by the patients or their relatives, all of whom were in close contact with my office and advised to report any aberration or misbehavior.

The usual symptoms that have been noted with rapid or sudden withdrawal of the corticosteroid of the original hydrocortisone and analogs are muscular pain, headaches, fever, lassitude and fatigue, but were not as significant in the occasional patient in whom medication was discontinued, either by design or accidentally. Withdrawal symptoms consisted of mild muscular discomfort and headache, which were allayed by use of acetyl salicylic acid.

While patients were receiving corticosteroid-corticotropin therapy, the side effects were carefully studied to determine the advisability of continuing this therapy, which we realized would be a long term study.

An additional clinical interest was the function of the gastrointestinal tract with especial reference to gastric hyperacidity and gastric mucosal erosions. The other undesirable constitutional effects can be effectually treated with alteration of dosage, strict dieting and use of

adjuvant minerals and hormonal steroids.

Dordick[15] describes the gastrointestinal side effects which were observed with patients on corticosteroid therapy, specifically prednisone and prednisolone. He states that in one hundred and ninety-five patients who received the above corticosteroids 17.9 percent demonstrated undesirable gastric manifestations. In thirty patients out of thirty-five, therapy was successfully continued despite the uncomfortable side effects. The addition of antacids controlled the symptoms in nineteen of the above thirty.

Corazza[16] studied the effects of various clinical disorders and drugs on excretion of uropepsin. There is a marked fluctuation of daily excretion of uropepsin in normal patients and those demonstrating gastrointestinal disease. Physical and emotional stress may cause elevation of uropepsin levels; however, these external factors probably cause increased secretion of pepsin and gastric acid. Therefore, several readings and levels of uropepsin must be taken to determine the mean of uropepsin secretion in the patient being studied.

During the administration of corticotropin, an increase of uropepsin has been noted with regularity. The same observer postulates this is the result of a humoral mechanism involving the hypothalmic pituitary adrenal gastric axis.

I deemed it advisable to study the effect of corticosteroid and corticotropin therapy on the excretion of uropepsin in several of our patients who were being treated for alopecia totalis and universalis. The method of analysis that was used in our determination observed this virtue: The urine was collected for six hours before commencement of therapy, during therapy and after the therapy was discontinued temporarily. Comparative studies were then interpreted.

In thirteen patients, uropepsin determinations were performed according to the method described by West. We found that the normal units of uropepsin were increased for twenty-four hours following the injections of corticotropin, and they returned to their normal level after cessation of the injections of the hormone. It was also noted that the comparative secretion of uropepsin was less during the oral administration of methyl prednisolone than with prednisone or hydrocortisone. In another paper we will report the effect of cicatrase, a flavidene-adenosine enzyme, in an attempt to reduce the secretion of uropepsin and the incidence of epigastric symptoms. We attempted to assay the effectiveness of this enzyme because of its reported ability to reduce digestive action of pepsin and hydrochloric acid secretion upon the gastric mucosa.

Cicatrase, a flavidene-adenosine enzyme, was reported by me previously for use in the acceleration of epidermal healing following dermabrasion.[22] Because of previous unpublished studies of its effect in healing ulcerative intestinal lesions, and due to its ability to neutralize destructive action of excessive pepsin and hydrochloric acid secretion, its use was suggested as a prophylactic adjuvant in long term corticosteroid therapy. (A desirable function of cicatrase is to aid in the regeneration of damaged tissue).

It was considered advisable to use it concomitantly with ACTH and corticosteroids in a small series to reduce the incidence of gastric pain and discomfort, and in the possible reduction of pepsin and HCL secretion. Thus, it was conjectured that long term therapy with corticosteroids in conjunction with cicatrase parenterally may continue without this possible hazard.

A special article is being written to describe in greater detail the effect of cicatrase upon uropepsin secretion during corticosteroid and corticotropin therapy.

I have also observed that in a large majority of alopecia totalis patients having alopecia totalis there is present a pallor and a deficiency of normal pigmentation of the scalp and face. As the corticosteroid-corticotropin therapy is initiated and continues, the growth of scalp and body hair is accompanied by gradual return of pigment to the face, scalp, and the new hair, which has commenced to grow originally without pigment.

Harris and Lerner[18] have described the iso-

lated melanocyte-stimulating polypeptides of the posterior lobes of the pig pituitary glands. In a recent study the authors reported the elucidation of amino acids in the sequence of a-melanocyte-stimulating hormone. They have found that the thirteen amino acids which these hormones contain are identical with the thirteen amino acids in corticotropin, and they are also present in exactly the same sequence as in corticotropin. The structure of the b-melanocyte-stimulating hormone differs from that of the a-melanocyte-stimulating hormone, but its polypeptide contains most of the amino acids in the same sequence as in a-melanocyte-stimulating hormone and corticotropin. Since, in the treatment of alopecia totalis for the past four years, I have been using corticosteroid and corticotropin, with subsequent increase of pigmentation of the face and neck, I suggest that further experimental studies should be conducted to determine the biochemical role of the corticosteroid and corticotropin in the stimulation of the melanocyte to produce cutaneous pigmentation.

Kopf and Orentreich[12] have described the diminution of alkaline phosphatase activity in the hair papilla during the early stage of alopecia areata. In the intermediate stage, the alkaline phosphatase activity is restored, and in the late stages the alkaline phosphatase activity has become intensely active.

The possible relationship between melanocyte formation, melanin pigment, alkaline phosphatase, corticosteroids, and corticotropin must be explored. The disturbance of hair growth may also have a biochemical connection with pigment metabolism.

Results

Sixty-eight patients having alopecia areata, totalis, or universalis have been treated. The duration of the alopecia ranged from three months to twenty-five years. The results of the therapy indicated that twenty-four males (sixty-two percent) had complete regrowth, and fifteen males (thirty-eight percent) had partial regrowth; seventeen females (fifty-eight percent) had complete regrowth, and twelve femals (forty-two percent) had partial regrowth. Six of the patients discontinued medication because of side reactions, particularly epigastric distress, muscular pain or no beneficial effect.

Of thirty-three patients having alopecia areata, twenty-three were male and ten were female. The duration of alopecia ranged from three months to ten years. The result of therapy indicated that sixteen males (seventy percent) had complete regrowth, and seven males (thirty percent) had partial regrowth. Six females (sixty percent) demonstrated complete regrowth, and four females (forty percent) had partial regrowth of scalp hair. Of the total number sixty-eight patients under continual treatment, complete regrowth was seen in forty-one patients (sixty percent) and partial regrowth was observed in twenty-seven (forty percent). See the chart on page 229.

Conclusion

I have been observing the treatment of alopecia areata totalis and universalis for the past four years with corticosteroids; namely, cortisone, hydrocortisone, prednisone, prednisolone. I have found this therapy to be the most effective therapy in use today. Since this scalp disorder can cause psychoneurotic manifestations and borderline psychoses, I am of the opinion that treatment with corticosteroids is indicated. As physicians and dermatologists it is essential to treat the somatic and psychosomatic alterations of these afflicted patients, and therefore I do not hesitate to recommend long term corticosteroid and corticotropin therapy for this disease. Its serious indication is equivalent to the corticosteroid use in severe asthma; dermatological diseases as pemphigus, "oid oid" disease, generalized exfoliative dermatitis and rheumatoid arthritis.

It is extremely gratifying to the patient and to the physician to slowly observe the progressive regrowth of hair and the re-entrance into

a normal world of the previously psychologically disturbed patient.

I believe that methyl prednisolone, at present, constitutes the most effective and least toxic corticosteroid in the therapeutic armamentarium today. It is essential, however, that patients on long term corticosteroid therapy be observed clinically at regular intervals in conjunction with laboratory determinations of urine and electrolytes, diagnostic x-rays to rule out depletion of bone calcification, potentiality of spontaneous fractures and osteoporosis.

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667 Madison Avenue

Clinico Pathological Conference

PETER BENT BRIGHAM HOSPITAL

The protocol and subsequent clinical and pathological discussion concerns a patient with rheumatoid arthritis and periarteritis nodosa. Rather than a single discussor, Dr. Gustave J. Dammin, Professor of Pathology at the Harvard Medical School and Pathologist-in-Chief, Peter Bent Brigham Hospital, selected a panel composed of Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard Medical School and Physician-in-Chief, Peter Bent Brigham Hospital; Dr. Theodore B. Bayles and Dr. J. Sydney Stillman, Jr., Clinical Associates in Medicine, Harvard Medical School, and Director of Research, and Chief of Medical Service, respectively, Robert Breck Brigham Hospital; and Dr. Edward A. Edwards, Associate Clinical Professor of Anatomy, Harvard Medical School and Senior Associates in Surgery, Peter Bent Brigham Hospital.

This 44-year-old white housewife of Polish-American extraction,* mother of three, was first seen at the Peter Bent Brigham Hospital on Nov. 6, 1957, because of gangrene of the toes.

Present Illness

In 1954, at age 39, she had the sudden onset of fever and multiple swollen painful joints. She was admitted to the Robert Breck Brigham Hospital where her symptoms quiesced on several weeks of aspirin and physiotherapy. She was discharged and did well for the next three years except for a period of several weeks during which hydrocortisone (40 mgm/day) was required to control joint symptoms.

In August of 1957 her joints again became inflamed, followed by the appearance of erythematous tender patches on her legs and feet. From these, superficial ulcers developed. These healed in several weeks; however, new ones appeared and she continued to have simultaneous healing of some lesions with the development of new ones.

She was again admitted to the Robert Breck Brigham Hospital on Sept. 18, 1957, complaining more of painful joints than the ulcers. Routine blood and urine examinations were within normal limits. The nonprotein nitrogen was 32 mgm%, fasting blood sugar 74 mgm%, total serum proteins 7.7 gm% with 4.1 gm% albumin. Her serum was positive on two occasions for latex fixation antibodies but failed to show L.E. cell phenomena. Cryoglobulins were not demonstrated in her serum.

On Oct. 7, 1957, a bilateral wrist-tendon stripping was performed to alleviate some of her arthritic disability. Two days later she developed sudden, severe pain in the right fifth toe with cyanosis and coolness. She was placed on heparin and gradually improved with less discomfort and perhaps less cyanosis until

* April 28, 1958—Patient #5L663.

October 30 when she experienced a sudden exacerbation of pain in the 5th toe and also in the hallux and right heel with cyanosis in these three areas. She was started on prednisone (80 mgm/day) and frequent injections of meperidine was required for pain. During this period she also had two episodes of transient generalized, erythematous, circinate lesions on the skin.

On November 6, 1957, she was transferred to the Peter Bent Brigham Hospital for a right lumbar sympathectomy.

She appeared chronically-ill and there were diffuse joint swellings and deformities characteristic of advanced rheumatoid arthritis. BP 130/80, T 99°, P 80, R 20. Head, ears, eyes, nose and throat were normal. There were no abnormal lymph nodes. Heart and lungs were normal. No abdominal organs or masses could be palpated. There were three well-delineated ulcers about 2 cm. in diameter on the left leg; one similar ulcer was present on the right leg. The 1st, 4th and 5th toes of the right foot were black and cold; the other toes and the heel were mottled, cyanotic and cool. Dorsalis pedis and posterior tibial pulses were easily palpable bilaterally.

Laboratory

Hinton negative. Hematocrit 41%, WBC 19,250 per cu. mm. with 95% polymorphonuclears, 3% band forms, 1% eosinophils and 1% lymphocytes. Blood urea nitrogen 12 mg%, serum total protein 5.8 gm% with 3.5 gm% albumin. Fasting blood sugar 77 mg%. Serum sodium 135, potassium 4.6, CO_2 25 and chloride 102 meq/L, respectively. L.E. Tests and cold agglutinins were negative.

Course

The sympathectomy was performed on November 14, and subsequently she showed marked subjective improvement. Steroids were gradually reduced and stopped. "Darvon" and occasional dihydrocodeine controlled her discomfort and she was transferred back to the Robert Breck Brigham Hospital. There she had a slight increase in her joint discomfort which was controlled with aspirin, meprobamate and chloroquine (750 mg/day).

On December 20, 1957, her right foot again became exquisitely painful. She returned to the Peter Bent Brigham Hospital for a transmetatarsal amputation, but her symptoms markedly diminished with heparin and a rocking bed, and she returned home several weeks later.

On January 21, 1958, she was readmitted to the Peter Bent Brigham Hospital Surgical Service because of one week of severe diarrhea with up to 20 watery stools daily, and the passage of occasional blood clots. BP was 118/76, T 97°, P 130, R 20. She was acutely and chronically ill, crying and moaning. One of the ulcers on her left leg had enlarged to 4 cm. in diameter and had penetrated into the tendons of her leg. There was no major change in the gangrene of her toes. Hematocrit was 37% and the leukocyte-count 5,9000 per cu. mm. with a normal differential. Stool contained no polymorphonuclear leukocytes and gram stain showed a mixed flora. Culture subsequently showed no *Staphylococcus aureus;* however, she was treated with erythromycin and neomycin. She was transferred to the Medical Service and again placed on prednisone (80 mgm/day). Her diarrhea subsided in 3 or 4 days.

Resection

On February 8, after remaining stable for two weeks, she suddenly complained of abdominal pain, vomited several times, at first clear fluid and later fecal material. Her abdomen became silent and her liver dullness disappeared with the development of tympani in the right upper quadrant. X-ray showed massive free intraperitoneal air. She was transferred to surgery and a wedge of jejunum containing a 2 by 4 cm. necrotic area was resected. Postoperatively she was supported on parenteral fluids and steroids and did well considering her debilitated state. On February 15 she again noted sharp, epigastric pain and became hypotensive. Re-exploration revealed a perforation at the site of the previous anasto-

mosis. Another resection was performed. Postoperatively she remained in shock and expired on February 21, 1958.

Discussion

DR. GEORGE W. THORN: To open the discussion of this case I have made notes on several points that were of interest to me. The first is the fact that this patient developed an illness characterized by fever and multiple swollen painful joints. This raises the question as to whether we are dealing with infection or with diseases such as rheumatic fever, rheumatoid arthritis or possibly with a malignancy with joint symptoms as the presenting process. I want to ask whether she had a pregnancy in the very near past, for if her disease had shown an exacerbation at the end of pregnancy, one might favor some of the diagnoses more than others. Is there any note in the record as to when she had her last child?

RESIDENT: At least 10 years ago.

DR. THORN: If these symptoms became manifest one or two months after termination of pregnancy, it would influence the diagnosis considerably. The second point is that her symptoms again developed in August. One wonders whether this represented an exacerbation due to ultraviolet exposure, especially since the differential diagnosis included lupus erythematosus. Then we have the skin ulcers. I won't comment on these because the other discussors are better able to do this, but one should keep in mind what part of the leg was affected and whether trauma was a factor in their origin. We know that certain systemic infections can cause skin ulcers. Also we should keep in mind vascular and neurogenic changes.

Another point which interests me is the development of sudden severe pain in her foot following a tendon-stripping operation. If this had been a 45-year-old male, one would immediately think of gout but the description of her difficulty is not in agreement with this diagnosis. The patient had sudden severe pain with cyanosis and coolness. In contrast, the same area if affected by gout would exhibit a great deal of heat. But I raise this point only to alert us to the fact that an acute exacerbation of gout or sometimes the initial attack may occur during the first few days following an operation. If the initial operation was carried out for some infection, one might think of the inflamed joint as infected. Unfortunately, these joints may be occasionally opened with the diagnosis of gouty arthritis unsuspected.

Then finally, as we get to the recurrent ulcers and the changes in the toes, one wonders about the causes of vascular thromboses and whether we are dealing with a thrombotic diathesis on the basis of some systemic disease or perhaps with thrombotic thrombocytopenic purpura.

Another point I noted is the diarrhea. When she returned in 1958 she was readmitted because of one week of severe diarrhea. She was not on steroid therapy at that time but subsequently was started with relief. There are not too many conditions of the bowel which might respond to steroids even temporarily. One would be ulcerative colitis, another might be some widespread vascular disease. In any case, the bowel condition was not worse while she was on massive steroid therapy; instead, there was some associated improvement.

Then finally we have an intestinal perforation. This raises the point as to whether the steroid therapy was a factor in the perforation. One would assume that if the perforation were in the stomach or upper part of the duodenum, it might have some relationship to the steroid therapy. If it occurred further down the bowel, it was presumably due to the underlying process for which the steroid was given. At all events, steroids would cerainly be expected to modify the critical symptoms of this patient in the immediate period after the perforation occurred. It will be interesting to have comments from the other discussors on specific aspects of the joint involvement, vascular changes and the recurrent ulcers.

Vasculitis

DR. THEODORE B. BAYLES:

I thought we might like to review briefly the problem of vasculitis in rheumatoid arthritis.

Very little is known about it. I have several references on the board which I thought might be useful. The paper by Baggenstoss and Rosenberg (Arch. Path. *35:* 503, 1943) is in the pre-steroid era and that of Sokoloff and Bunim (J. Chron. Dis *5:* 668, 1957) is from the period after steroids had appeared. These latter authors point out that within the last four years there are some 20 papers on vascular lesions in rheumatoid arthritis. There were practically none prior to steroid therapy. I also want to note one other reference concerning peripheral vascular obstruction by Bywaters (Ann. Rheum. Dis. *16:* 84, 1957) in which he records 10 cases; but only 4 out of the 10 had received steroids. Also related is the problem of neuritis or neuropathy associated with rheumatoid arthritis. Here are two appropriate references. (Robinson, W. D., French, A. J., and Duff, I. F., Ann. Rheum. Dis. *12:* 323, 1953) and (Irby et al., Arth. and Rheum. *1:* 44, 1958).

We feel that vasculitis is not such a rare occurrence. Unfortunately, rheumatoid arthritis had not been carefully studied until the last 20 years, but it is interesting to note that Painter in 1901 remarked that he found arteritis in synovial tissue and suggested that the rest of the body should be studied. There were papers describing arteritis in 1908 and again in 1929, both from Germany. Around 1940 people finally became interested in the systemic aspects of rheumatoid arthritis. Nevertheless, earlier biopsy studies of muscles showed about 10% of patients had arteritis. I think the general consensus is that this is not a new or steroid-induced disease, but that the disease may be made more severe by steroids.

Latex Agglutination

Dr. Dammin has asked me to discuss briefly the latex agglutination test. We recently reported our experience with this procedure in the *New England Journal of Medicine* (Hall, A. P., Mednis, A. D., and Bayles, T. B. N. Eng. J. Med. *258:* 731, 1958). It has been known for many years that serum of patients with rheumatoid arthritis will agglutinate particulate matter such as collodion particles, streptococci, pneumococci, etc. In 1940 Waaler showed that sensitized sheep cells would be agglutinated more readily by rheumatoid serum and since then there have been many modifications of this procedure. This technique has resulted in a 60% to 75% accuracy for patients with rheumatoid arthritis, and somebody has pointed out that this is about the same as our clinical judgment; so these tests have not been too helpful in the past. Dr. Ziff (Ziff, M., Brown, P., Badin, J., and McEwen, C., Bull. Rheumat. Dis. *5:* 75, 1954) of New York University recently introduced a third and final step which we have used at the Robert Breck Brigham. This step involves the agglutination of latex particles by a known positive serum or fraction thereof. Since normal sera contain inhibiting factors to this reaction, the expected agglutination will be impeded by normal serum. However, sera or the euglobulin fraction of the sera from patients with low titers of rheumatoid factor contain no inhibiting factor since it has theoretically been removed by their own rheumatoid factor. Thus, this serum does not inhibit the known reaction. This procedure is positive in about 98% of patients with rheumatoid arthritis and about 3% to 7% of controls. It is particularly useful in the separation of gout, rheumatic fever and osteoarthritis from rheumatoid arthritis.

It does not help to differentiate rheumatoid arthritis from the other so-called connective tissue diseases such as lupus, periarteritis or scleroderma.

I was interested to hear Dr. Thorn mention malignancy in the differential diagnosis. We have seen underlying malignancy in cases with rheumatoid arthritis several times. A recent abstract (Grace, J. T., Dao, T. L. Clin. Research *6:* 302, 1958) has pointed out a case of dermatomyositis showing sensitivity to a tumor. The dermatomyositis was relieved when the tumor was removed and returned when metastases were noted. This is the first time any real sensitization to a tumor has been described.

Arteritis

To recapitulate, arteritis has certainly been present in patients with rheumatoid arthritis without and prior to steroid therapy; however, the arteritis is probably potentiated or activated by the steroids in certain patients.

DR. J. SYDNEY STILLMAN, JR.: I think Dr. Bayles has covered the problem of vasculitis quite well. I would like to add a few points. Kemper and Slocumb (Kemper, J. W., Baggenstoss, A. H., and Slocumb, C. H. Ann. Int. Med. *46:* 831, 1957) at the Mayo Clinic reviewed three groups of about 150 patients each. One group was composed of patients prior to the steroid era, one group was treated with cortisone without clinical hypercorticism, and a third group received large doses of adrenal cortical steroids with definite hypercorticism. Only in the last group was arteritis found. I think that our experience around Boston has been that arteritis existed in rheumatoid arthritis prior to steroids but I agree that cortisone seems to have aggravated the problem rather than have caused it. A large proportion of the cases that develop arteritis do so while the steroids are being withdrawn, or shortly after their withdrawal. This is not uniformly true but is frequently seen. Slocumb and Kemper reported that their cases were in a period of relative "withdrawal" since they were exposed to considerable extra stress.

I am interested that there was a transient, generalized, erythematous, circinate rash in this patient. We have seen a similar lesion in a patient with rheumatoid arthritis who also developed leg ulcers. The involvement of the gut is something I have been interested in. I have seen several people who have had fatal gastrointestinal hemorrhages, not from the usual sites in the stomach or duodenum, but from the ileum. One of them also had simultaneous bleeding from the stomach and the ileum in areas of arteritis. There have been several patients who have had perforations in the gut in various places secondary to arterial involvement. As to the relationship of cortisone to the precipitation of these lesions, I wonder if the healing mechanism of the arteritic lesion leads to thrombosis and obliteration of the artery followed by tissue anoxia and finally perforation.

Steroids

DR. THORN: May I comment for a minute? There doesn't seem to be much doubt that the vascular lesions may be aggravated by either steroid therapy or its manipulation. It also seems pretty evident that the majority of patients in the future who have vascular lesions with rheumatoid arthritis are likely to receive steroids because they will represent the difficult cases to treat effectively with nonspecific therapy.

DR. EDWARD A. EDWARDS: I saw this patient on several occasions in the earlier part of her course. I would like to comment first on the matter of cancer. This had not entered my mind, but I do recall that in a group of patients with migratory thrombophlebitis due to carcinoma there was one patient who also had periarteritis nodosa and another patient who had what I considered some sort of hyperergic response in the leg simultaneous with the onset of thrombophlebitis. In the literature on rheumatoid arthritis there are many references to visceral arteritis, arteritis involving vessels of the thorax and abdomen and particularly the pulmonary and coronary arteries. We know little about the periphery because of the limited number of autopsies which are complete. Some varieties of arteritis have nothing to do with cortisone. In 1950 (Edwards, E. A., New Eng. Jour. Med. *243:* 290, 1950) I recorded a group of seven women and one man; six of these had a Buerger's-like disease with some sort of rheumatoid or rheumatic disorder.

Certainly, peripheral vasculitis occurred prior to the steroid era. I think none of the patients I reported had received cortisone. I don't know whether or not the ulcers brought up the question of arteritis in my mind; one could not exclude arteritis as a cause of these ulcers. On the other hand, any patient who is bed-ridden and nutritionally under par can have multiple areas of infection, particularly

in the lower extremities. I don't think one can differentiate except by biopsy, and even then the vessel reaction in the presence of infection may be hard to separate from a primary vasculitis. We'll see what Dr. Dammin has to say about this.

Spasm

The first definite vascular abnormality she showed was the appearance of blue toes several days after having an operation on her wrists. This raised the question of whether vessel spasm can produce such a picture. She had excellent peripheral pulses and maintained them up to the time of her death. Years ago Raynaud said that if the cyanosis were symmetrical, it was always due to spasm. It remained for Hutchinson, about 1890, and for Lewis and Pickering, in the early part of this century, to obtain some biopsy and autopsy material which proved that this thesis was wrong. Ischemia which progresses to ulceration almost invariably has some sort of thrombosis in either the small or large arteries or arterioles. This patient, as soon as she developed sufficient ischemia in one extremity to interfere with the viability of her toes, must have had some thrombotic disease. I have been following a group of such patients for as long as 15 years. They fall into a pattern with recurrent waves of cyanosis, often with ulceration, and then spontaneous disappearance of these symptoms followed by a recurrence. I was not sure whether I was dealing with a specific disease entity or with a group of diseases with a common symptom. I have described this group under the title of remitting necrotizing acrocyanosis. I made this diagnosis in this patient, bearing in mind, however, that I am not sure whether this diagnosis is a specific pathological entity. It simply means that there is thrombosis of terminal vessels.

Dr. Gustave J. Dammin: Now, before we have the autopsy findings, we might see what implications about this group of diseases arise from recent experimental work on the metabolism of foreign proteins in the experimental animal. The suspicion is growing that we are dealing in some of these diseases, specifically rheumatoid arthritis and systemic lupus erythematosus, with a variety of autoantibody directed against tissue components which thus far have not been identified definitely.

Antigen Catabolism

When one labels rabbit gamma globulin with iodine^{131} and then returns the labeled protein intravenously to the rabbit, there is a two-phased pattern of elimination of the labeled protein from the peripheral blood. If on the other hand one labels a serum fraction from bovine serum the pattern differs. Depending on the fraction used, there is, after a period of catabolism resembling that for homologous gamma globulin, a rapid disappearance which has been identified as the first manifestation of an immune response. If bovine serum gamma globulin is used, at the fourth day there begins a more rapid catabolism of this protein and by the end of the seventh day no antigen is detectable in the peripheral blood by currently used methods. The phase of antigen catabolism that interests us most is this third or "rapid" phase because it is during this period that one identifies the first tissue reactions related to the immune response. If we determine the rate of disappearance of the labeled protein antigen from the tissues we find that it parallels the disappearance from the peripheral blood. In other words, there is no specific localization of the antigen in any of the tissues. The type of acute arteritis one observes during the period of rapid catabolism of antigen resembles that seen in periarteritis nodosa, in some cases of systemic lupus erythematosus and rheumatoid arthritis and occasionally in other examples of the so-called collagen diseases.

What can we say about the specificity of acute arterial lesions of this type. In the rabbit as the experimental animal, one can demonstrate that vascular lesions contain rabbit gamma globulin and it is possible to demonstrate also that antigen is present in the lesion at the time it appears but not before. Acute arterial lesions occur in a wide variety of

apparently unrelated states and we must therefore interpret with great care the implications which any particular lesion carries.

For example, in cases of idiopathic or primary pulmonary hypertension, in which we have no reason to suspect an antigen-antibody process, acute arterial lesions resembling those in periarteritis nodosa are observed in the pulmonary arteries.

On the basis of experimental work involving an anastamosis between systemic and pulmonary arteries, one can say that a major factor in the development of the acute arterial lesion is a response to an increased arterial pressure. In the smaller pulmonary arteries, which are the ones involved in pulmonary arterial hypertension, one would suspect that aneurysm formation would be a sequela of the process. We have, indeed, observed a rather unusual end result which is related to a disruption of the elastica producing a sinusoid-like circulation around the involved pulmonary artery. These arterial lesions resemble periarteritis nodosa and therefore should be comparable to those we suspect of being present in today's case.

DR. THORN: Is there any evidence of thrombocytopenia in the record?

RESIDENT: No, she had normal platelet counts.

DR. DAMMIN: During October of 1957 when she had this skin reaction with erythema, did she have much of a systemic reaction? Did she have fever or leucocytosis?

RESIDENT: No.

Autopsy Findings

There was fibrinopurulent exudate on the serosal surfaces and there was focal fat necrosis in the mesentery and omentum. In the jejunum, we found a recent perforation which was distal to the anastomosis performed during the last operation before the patient's demise. It is apparent from the thinness of the wall that there was no previous reaction at this site of perforation. Not only were there several portions of the jejunum involved with an inflammatory process with ulceration, but similar lesions were observed in the distal ileum and also the ascending colon. It is apparent also from gross examination that any of these lesions might well have perforated since we can recognize a destructive process extending well into the muscularis.



FIGURE 1
Gangrene of the toes.

Gangrene of the extremities was observed and had the distribution which Dr. Edwards showed you in the photographs (see Figure 1).

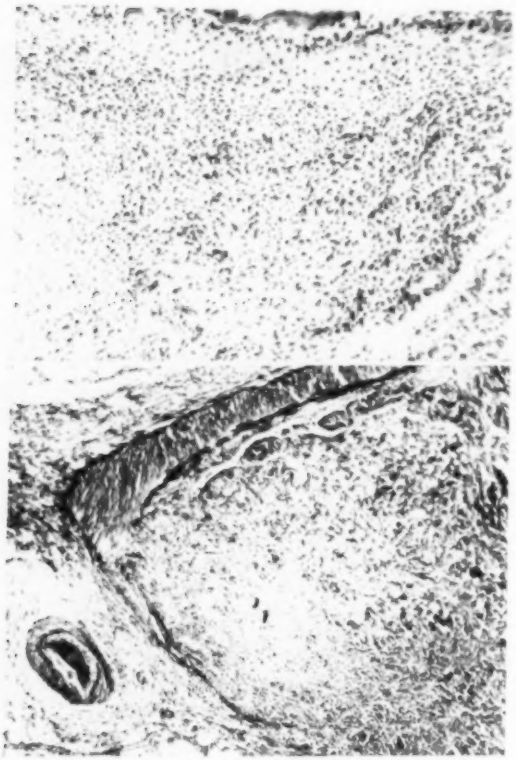
In the heart, which was not enlarged, we recognized a myocardial infarct. There was fatty metamorphosis of the liver with some enlargement (1900 gm). The kidneys were normal in size and had no gross or microscopic involvement of the vessels or the glomeruli. The spleen was normal in size, was congested but presented no gross or microscopic lesions. The adrenals together weighed 10.5 gms.

For the microscopic review, we might begin with examination of the tendon which we removed surgically at the operation described. The rheumatoid lesion was a very active one with large areas of necrosis resembling the caseation of tuberculosis. At the periphery of the necrotic areas one can recognize numerous

giant cells and epitheloid cells. No microorganisms were seen microscopically. In one of the sections, complete dissolution of the central necrotic portion was observed. The appearance of the sternoclavicular joint was characteristic of an active rheumatoid process (see Figure 2). There was marked cellularity of the synovial tissues with fibrinoid deposits near the surface.

FIGURE 2 (Top) Synovia of sternoclavicular joint. Fibrinoid is present on the surface and there is extensive subjacent mononuclear cell infiltration.

FIGURE 3 (Bottom) Coronary artery. The wall is intact in the upper portion of the field, but in the lower there is almost complete loss of all elements of the wall with thrombus occluding the lumen. In the lower left field, there is intimal thickening in a small artery with partial occlusion by thrombus.



Of the tissues examined from the intestine, it is apparent that there are processes other than vascular occlusion which account for the lesions. In the segment of jejunum removed at operation, no vascular lesions were found which could account for the extent of the ulceration of the mucosa, the edema of the submucosa or for the perforation. Likewise, in the postmortem specimen there is not enough vascular involvement to account for the extensive inflammatory process observed in the intestine. In portions the edematous submucosa had a width 10 times the normal.

The coronary artery which supplied the area of myocardial infarction was a major branch of the left circumflex. The process was characterized by destruction of the elastica and the smooth muscle and an occlusion of the lumen by partially organized thrombus (see Figure 3).

In adjacent vessels, probably as a result of propagation, one can see portions of partially organized thrombus. Other vessels show the same process of destruction of the media and thrombus formation, but they are smaller in size. Microscopically the infarct in the myocardium had features which suggested a duration of approximately 10 to 14 days. In one portion of the endocardium we note subjacent ischemic myocardial damage and on the surface the attachment of a mural thrombus. In the atrium there is an extensive acute endocardial process similar to that seen in the involved vessels and here also there is mural thrombus formation. In the dorsalis pedis artery there was destruction of the media and elastica with thrombus occluding the lumen in part. The type of destruction noted here suggests a primary process, this type of lesion not being the result of embolism. The portions supplied by the dorsalis pedis artery show the changes characteristic of gangrene. In other areas remote from this portion there is an arteritis involving the vessels in the deeper portion of the dermis. Several vessels therefore of the lower extremities were involved by a primary arteritis.

In the pancreas, the arteries showed a more

chronic type of reaction with loss of the elastica. The skeletal muscle presented a diffuse interstitial myositis. In a section of a nerve, there was an arteritis similar to that observed in the myocardium and lower extremities.

In summary therefore in this patient with extensive rheumatoid arthritis there is also widespread vascular involvement with lesions showing the characteristics of periarteritis nodosa, involving particularly the heart, the intestinal tract, the extremities and the peripheral nerves. It was not possible, however, to ascribe all of the intestinal lesions to the arteritis.

DR. EDWARDS: Did the vessels in the base of the ulcerations of the foot show any pathological changes?

DR. DAMMIN: One of the sections shown represented gangrene due to arteritis with secondary thromboses of the vessels in the base of one of these ulcerations.

DR. THORN: Can one differentiate between disseminated lupus with a rheumatoid-like syndrome and rheumatoid arthritis with vasculitis by the presence or absence of leucocytosis?

DR. STILLMAN: To add to the confusion, we now have a patient in the hospital who has had clinical rheumatoid arthritis for three or four years. Diagnosis was made by biopsy. She also had a positive latex test. Originally, she had two negative L.E. cell preparations. Her systemic illness gradually increased and she had a lowering of her white count. Subsequently, the L.E. cell preparation became positive. She returned home for a while but later came back because of marked weakness in her hands, and a biopsy of an apparently uninvolved gastrocnemius showed dermatomyositis. I am sure that if we looked hard enough we could have also made the diagnosis of polyarteritis nodosa. I have often wondered when the L.E. cell test was of real significance. When the patient has skin and renal lesions in addition to leucopenia one can favor lupus, but most patients fall somewhere in the middle and I don't think it is possible to define which disease they have.

DR. THORN: It is remarkable that our patient's kidneys were spared.

DR. DAMMIN: Yes. I also think that it is worth repeating that the arteries of peripheral nerves, the G.I. tract and the heart are particularly involved when arteritis complicates rheumatoid arthritis. The kidneys, which are so often involved in lupus or periarteritis nodosa, were not involved here nor in the other reported cases (Ball, J.: Rheumatoid Arthritis and Polyarteritis Nodosa, *Ann. Rheumatic Dis., 13:* 277, 1954).

DR. EDWARDS: Now that we have talked about this patient, should we have treated her in another way? She received high doses of steroids. Was this good or bad?

DR. THORN: We had no other therapy available. May I ask another question? We have always been interested in the association of myocardial disease with rheumatoid arthritis. Could the "myocardial injury" noted in the literature be due to rheumatoid vasculitis?

DR. DAMMIN: Here we have an arteritis which resembles classical periarteritis nodosa and not the arterial lesion of rheumatic heart disease. Aschoff bodies were not seen here nor reported in other similar cases.

Anatomic Diagnoses

1. Rheumatoid arthritis involving multiple peripheral joints with deformities and subluxations of hands.

2. Periarteritis nodosa, predominantly of small arteries, with partially-organized thrombi involving heart, lower extremities, bowel, pancreas, adrenal and peripheral nerves.

3. Gangrene of toes of right foot and gangrenous ulcers of both feet.

4. Focal necroses of myocardium, recent and organizing.

5. Focal endocarditis, active, with fibrin deposition.

6. Focal necroses of small bowel and large bowel with recent free perforation of proximal jejunum.

7. Generalized organizing purulent peritonitis with 1000 ml. of sanguineo-purulent fluid.

EDITORIALS

PERRIN H. LONG, M.D.



MEDICINE UNDER THE STATE

III. The National Health Service of Great Britain: The Doctors: Practitioners, and Consultants

It will be our purpose in this and subsequent editorials to examine the mechanisms and workings of the British National Health Service from time to time. It is important that physicians in this country be made aware of what is going on within this service, because, with the Veterans Administration, Children's Bureau, The Public Health Service and "Medi-care" providing health and medical care for millions of "consumers" at a cost to the taxpayer, and with the proposed National Health Insurance Bill probably coming to a vote in the current session of Congress, and the better than even chance that the so-called "Fogarty Bill" will be passed, all of us can get valuable guidance from the experience of our British colleagues in dealing with governmental control of medical care.

It is important for us to realize that the National Health Service was not the result of a sudden political decision on the part of Labor when it assumed power in 1945. It is fair to say that the roots of the Service go back to the Friendly and Mutual Societies which sprang up over Britain shortly after the dawn of the Industrial Revolution. Certainly, major features of the Service go back to Lloyd George's National Health Insurance Act of 1911. In the 'twenties the British Medical Association developed proposals for "a General Medical Service for the Nation,"[1] and these proposals, which were revised in 1938, and again in 1942, undoubtedly influenced the Beveridge Report ("cradle to grave, or, womb to tomb"), which was made public in 1943, and in which the philosophy of "full preventive and curative treatment of every kind for every citizen . . . without an economic barrier at any

point to delay recourse to it" was a major premise. We in this country must realize that the National Health Service "conceived by a Liberal, nurtured by a Coalition Government under a Conservative Prime Minister and brought to life by a Labour Government . . . can justly claim to be a national institution."[2] It represented to the best of their various abilities the *consensus* of the British medical profession, public, and politicians relative to the provision of health and medical care to the people of Britain, at its inception in July 1948. Ten years have passed, and it seems possible for one to assess seriously the benefits and drawbacks of the National Health Service.

Consumer Reactions

All have heard many wisecracks and derogatory statements about it (one of the best known of the latter being the answer of a very well known American physician who, after being hospitalized while visiting England several years ago, was asked "how it was?" "Well," he replied, "I paid nothing and got nothing.") This attitude I think, is completely belied by the following quotation from Dr. H. Guy Dain, a former chairman of the Council of the B.M.A., who writes,[1] "From the point of view of the 'consumer,' that is, every inhabitant of the country, whether Britisher or visitor, it (the Health Service) has been an enormous benefit and success. In no other country, whether Welfare State or not, is it possible to have, on requirement, all of the professional services that may be needed for the treatment of all kinds of illness or accident without fee or charge; consequently without any hesitation to call for help on account of the possible cost . . . for the patients the service has been a boon, and the knowledge that it is there and available has been a great comfort, even at the time when you have no need for it yourself. The absence of any financial barrier between doctor and patient must make the doctor-patient relationship easier and more satisfactory."

In a recent survey made by Professor Gemmill[3] on patients' dislikes and likes about the National Health Service, it was clearly documented that while the patient *does not like* having to wait too long in doctors' offices, the relatively small amount of time given him by the busy practitioners in their examining rooms, the deductible costs: for dentures ($12); for dental service ($2.80); spectacles $4.20), and prescriptions ($.14), and the provision of free care for foreigners (an xenophobia which is interesting), he greatly enjoys "the fact that medical provision is now a *right* and not of *charity*," that excellent medical care is now available to everyone, that the cost of "catastrophic illness" now carries no threat of wrecking one's finances, and finally he greatly appreciates "the comprehensiveness of the Service and its nation-wide coverage."

Last July, I found no dissenters from the point of view expressed both by physicians and patients alike with whom I talked, that the National Health Service had been responsible for bringing about marked improvements in the health and medical care of the people of Great Britain, and there is no question but that the National Health Service is there to stay.

I think all of us in this country should consider this "consumer" reaction in Great Britain, because I am absolutely certain, after observing what has happened since 1945 as the result of the vast expansion of the Veterans Administration's Medical Service, the increase in the activities of the Children's Bureau, the phenomenal growth of the P.H.S., the reception of the relatively recent Medi-care program, the growth of H.I.P., and of the United Mine Workers' and other governmental and union organizations for health and medical care, that none of these schemes will ever be relinquished by their clients. The medical profession must face the fact that if they can get it "cheaper," or "free," the chances are overwhelming that the majority of the Ameri-

1. Dain, H. Guy, Brit. Med. J., 2 Suppl. 1, July 5, 1958.
2. Editorial, Supplement, The Times (London), July 7, 1958.
3. Gemmill, Paul F., Brit. Med. J., 2 Suppl. 17, July 5, 1958.

can people will support health and medical plans which purport to provide them with services under such terms.

The General Practitioner

It seems to me to be fair to say that of all concerned in the National Health Service the general practitioner, who in my opinion has done the most to make it work, has come out on the shortest end. To begin with, when, under the terms of the Service, the general practitioner's practice was transferred from his own hands to that of Government, the ability of the established family doctor to move from one area to another in search of more lucrative practice became sharply limited. Furthermore, with the abolition of the right of the practitioner to sell his practice and good will, his desire, to date, to retire under the pensions allotted by the Service has been dampened by the rather poor financial outlook, based on his relatively short membership in the National Service. Thus, with the rights of a physician to move his practice from one place to another, and with the growing reluctance of older physicians to retire, because of their financial status, the situation of the young doctor entering practice has deteriorated, because openings available to him (except in medically depressed areas) have steadily lessened.

In many instances the overall financial status of the practitioner has changed, because he is no longer his own master in this respect. In the past he could, if he desired, increase his fees (assuming the risk of doing this) to balance his budget. Naturally, there were times when he had to practice against a backdrop of financial worry. It was thought that this worry would be done away with when he entered the Health Service, and that he would be provided with a reasonable and constant income. However, with the inflation generated by the Welfare State, and with a Ministry of Health quite unsympathetic with the financial realities of medical practice, many general practitioners again are plagued with financial worries, because their expenses of providing adequate service for their patients are barely met by the money allotted to them. It should be recognized that, *when private practice is essentially non-existent and the doctor's income depends on capitation fees set by Government, any uncompensated rise in the cost of practice, or living, adversely affects the financial status of the practitioner.*

Another problem faced by the practitioner in the National Health Service has been the fact that the "consumer" has not and does not yet realize that dosing him with pills, powders, or potions, does not necessarily indicate that he is being well treated. The indications are that patients at times make nuisances of themselves and take up considerable time of the practitioner with minor ailments for which no curative treatment exists. Also, in the National Health Service, there is nothing to protect the practitioner from unnecessary or even frivolous calls during the day or night. As there is complete freedom of access to the doctor, there are bound to be excesses in the use of his services, which are difficult to control. This has meant that the doctor has been plagued with demands for medicines, etc. both ethical and proprietary, and undoubtedly has been responsible after a fashion for the sizeable bill for drugs and devices which had to be borne by the budget of the Health Service.

While modifications in the administration of the Service have to some degree lightened the load of the physician, one of the dangers which still exist is that under the pressure of patients, a practitioner may be tempted (or actually succumb) to act primarily as a "disposal agent" who refers his patients to hospitals rather than coping with them himself. No final solution has been found to this problem, nor has a real approach ever been attempted towards the goal of rewarding a practitioner for the *quality* rather than the *quantity* of his work. However, it does seem clear that if a scheme can be evolved under which the general practitioners can fully exercise their talents and judgment in an unhurried manner, the need for referring thousands of the patients to hospitals would cease, and the doctor, the patient, and the British (or, rather, their poc-

ketbooks) would benefit by cutting down on the major expense of the Service, i.e., hospitalization.

One development resulting from the various patient pressures has been the increased numbers of group practices which have been established over the past ten years, and the creation of the rota system. These benefit both patient and doctor. For the patient it means that he can be certain of getting medical service rather promptly and without argument, while for the doctor group practice provides a means by which senior registrars, who find no consultant post, go over into general practice. Group practice and the rota system also provide a degree of freedom which is so necessary if one is going to have any sort of private life.

It would appear that from the point of view of the practitioner in the National Health Service, a considerable amount of education is still necessary to indoctrinate the patients with the idea that *their* doctor is *their* doctor, and not *a* doctor, who must be treated with respect, courtesy, and consideration. Patients apparently try to browbeat their doctors into prescribing patent medicines at the cost of the Service. They sometimes insist on hospitalization, or consultant services, when neither will contribute to the cure of their illness. As has been pointed out before, these practices make life frustrating for the hard-put practitioner and increase the expense to the taxpayer.

The remuneration of the general practitioner for his services has been a matter of debate between the medical profession and the Ministry of Health almost since the inception of the Service. The majority of a practitioner's income comes from "capitation fees" which he receives from the patients on his list. For the first five hundred patients on his list this fee is $2.38 each, for the next thousand, $3.78 each, and then $2.38 each for the remainder of his patients. With an average number of patients (2300) on his list, the practitioner will earn $6,874 a year gross. The costs of carrying on practice are roughly one-third of this gross, thus giving the average practitioner a net income of about $4,500. This would amount to about $6,000 in American purchasing power.[1]

In closing the discussion of the situation of general practitioners under the Health Service, I would judge from what I have heard and read that they do not like the regulation which makes a private patient pay for his medicine, that their pay hasn't kept up with the cost of living, that they can't sell their practices, and can't move easily into other areas. The practitioners do seem to be happy with the fact that they don't have to bill their patients; they like the pension scheme provided in the Service; they are relieved that they can't be accused of practicing medicine and making patient visits just for the sake of money, and they are all glad to know what they can prescribe the best medicines, refer their patients to excellent consultants, send them to hospital, and practice a high type of medicine without creating a single financial worry in their patients.

The Consultants

One of the interesting facets in the planning of the Health Service was that a consultation service was to be made available to all participants in the Service. Prior to 1948, many of the sick in Great Britain who were in need of a consultation were unable to have one because they lacked funds to pay for it. As a result of the economics of medical practice prior to Health Service, the consultants generally congregated in the great centers of population in order to make a living. I remember that before World War II, to get a London consultant to see a patient at a distance, one had to figure on paying his fee of a guinea (then $4.20) per mile of travel.

Under the Health Service this has changed. Everyone who participates in the Health Service is eligible for a consultant's service if he needs it. Then, too, the fact that under the Service, consultants are paid for their hospital work (which formerly they did free) has made it possible for them to work outside the cities. An example of this change can be cited in the Newcastle area, where ten years ago there were one hundred and sixty-four consultants,

while today there are more than four hundred. Currently, essentially all *planned* consultants' posts are filled, and there is an excess of well trained senior registrars ready to fill any vacancies. As a matter of fact, as we have pointed out previously,[4] due to circumstances, there has been an over-production of these well trained young men in almost all of the specialties, and what to do with them is a problem at this time.

The consultants function either on full time, at one hospital, or part time, working in different hospitals and carrying on in some private practice. The relative merits of the full-time and part-time consultants are under considerable discussion by our British colleagues. However, it does not appear that a clinching argument can be made for one or the other consultant systems, and it seems to be the consensus that full-time fits some consultants' temperaments and desires best, while a part-time position does the same with other consultants.

In the conception of the Health Service, it was planned that the consultant would practice only at the level of the hospital. That concept has been changed and provisions have been made for domiciliary visits by consultants. This has been an important move in the right direction, because it permits of consultative services for patients who for reasons of health cannot visit a hospital outpatient, where the bulk of the consultation work is done. It also permits topflight medical advice to reach the poorest sections of the community.

As far as renumeration is concerned, the consultants do not make the large incomes which consultants were reputed to have made before World War II. However, under the National Health Service, it may be said that the consultants make a reasonable living at an earlier age than they did previously. Salaries range from $3,083 (first-year registrars) to $14,840 a year for a few senior consultants. The maximum base pay for a full-time senior consultant is $8,680 a year. "Merit Awards" of various types increase this base stipend. In addition, the consultant's income is augmented every time he makes a domiciliary visit. While these incomes may not seem large according to American standards, one must take into account the buying power in Britain of these salaries. Professor Gemmill[3] estimates that the buying value of these incomes is twenty-five percent greater than it would be in the United States, and The Lord Cohen of Birkenhead is of the opinion that the purchasing power is about twice as great.

What evidence there is tends to show that the consultant by and large is quite content with his financial lot. As far as his professional life is concerned, it can be said that it has not greatly changed. He spends more time in the hospital and doesn't seem to worry as much about his private practice. Certainly there can be no questioning the great benefit which this consultant's system has brought to the patient and to the general practitioner. It has unquestionably, in my mind, been a major feature of the National Health Service which has been responsible for raising the over-all level of medical care in Great Britain. However, as has been pointed out earlier, the one problem which has developed is that only too frequently the patient regards his family doctor as a guidepost to a consultant and insists on consultant services for trivial illnesses. We all know that the layman does not have the background of knowledge for making the decision as to whether consultant services are needed or not. The trouble is that he tends to think that a consultant will bring him better medicine. In this respect, to have a consultant service that is not harassed, one must have an enlightened public who understands the relation which exists between the family physician and the consultant, and constantly increasing standards of practice on the part of the family doctor. *It is very important* for American doctors to understand this point, because if a National Health Service was established in this country, our improperly educated public might well by their demands for consultant service, create a major problem for the family physician.

4. Editorial. RESIDENT PHYSICIAN. 4. No. 6. 49. June, 1958.



THE LONG AND SHORT OF IT

From Your Editor's Reading

More on European Travel 1958

Portugal Lisbon was somewhat of an anticlimax after Italy and Spain. To begin with, the town is comparatively modern, having been destroyed by the great earthquake and tidal wave in 1755. Sightseeing is not too exciting, and I must say I did not find what I would consider a first-class restaurant in the city.

There is a beautiful spot called Sintra a few miles from Lisbon, where it is worthwhile, if you like scenery, gardens, and walking, to spend a few days. The botanical garden on the mountain is quite extraordinary. If you don't like walking, hire a carriage and ride through it.

Nearby is Estroil, with its somewhat expensive hotels, excellent bathing beach, garish gardens, and casino. Here you can gamble to your heart's delight. It was interesting to feel the quiet which is characteristic of a European gambling room again and also to walk out ahead of the game.

Spontaneous Strokes in the Young

"The occurrence of spontaneous strokes in healthy normotensive young subjects is not rare, as witnessed by 32 cases whose ages range from five and one half to 44 years. No cases were included that had traumatic neoplastic, infectious, embolic or other primary disease. Two large etiologic groups were identified, those due to cerebral venous thrombosis, and those due to cerebral arterial thrombosis. Of the latter group, 16 cases were observed, some due to cartid artery thrombosis. Diagnosis of carotid artery thrombosis can often be made by clinical observations, including a history of acute onset of headache with contralateral hemiplegia, and ipsilateral Horner's syndrome. Palpation of the carotid artery and ophthalmodynamometry are valuable but not infallible technics that deserve more frequent usage. Arteriography is often indispensable, particularly to exclude intracranial aneurysm or tumor, but unnecessary, painful or dangerous tests can often be circumvented by careful analysis of clinical data.

Unfamiliarity with spontaneous strokes in the young may motivate the perplexed clinician to subject the patient to a consecutive series of elaborate tests to uncover the elusive etiology. Syphilis and hypertension are easily and readily eliminated. Brain tumor, collagen disease, and congenital and acquired diseases of the vascular and hematologic systems are then sought after. The multiple tests necessary to investigate these various possibilities are usually negative. But the time consumed is often sufficient to permit spontaneous improvement. An erroneous diagnosis of multiple sclerosis is then often made by exclusion.

Most spontaneous (arterial) strokes in the healthy young are due to solitary atheromatous plaques similar to those found in older patients. Stress seems to precipitate the attack in some cases.

Development of a rational therapeutic program rests on accumulation and assessment of further data, especially on pathogenesis. The usefulness of anticoagulants in the treatment or prevention of a "stroke" requires further validation. Prognosis in these selected patients was generally good with no specific treatment. The indiscriminate use of anticoagulants without proper refinement of the heterogenous diagnosis of "stroke" is hazardous. Increased bleeding into a hemorrhage infarct is a particular danger.

Further study of strokes in the healthy young would be particularly rewarding since the causative lesion can be studied in 'pure culture', without contamination of the issue by the diffuse and multiple degenerative changes accompanying strokes in elderly patients."

HAROLD STEVENS
Annals of Internal Medicine

Sherry

My introduction to Sherry* occurred at the age of eighteen and nineteen, when I was on leave in Paris at various times during World War I. We of the American Ambulance used to congregate in various bars (Harry's New York, Henri's, Cafe de la Paix), and sit around chewing the fat and playing the Italian odd-or-even-finger-guessing game called *Morra* to see who would pay for the Sherry Flips (3-ounce jigger of sherry, one egg, ice, shake well, pour into glass, sprinkle with nutmeg, and drink) which were considered fashionable among the young men of those times.

As I look back on those days, I have for a number of years thought what a poor introduction drinking Sherry Flips was to one of the best of the aperitifs, and I always thought that if I ever went to Spain, I would go to Jerez de la Frontera and really find out about Sherry. Last summer I did just that, and I want to report my researches to you.

To begin with, I carried out my investigative work in those famous laboratories otherwise known as the Bodegas of Sandeman in Jerez which have probably the best facilities (and supplies) in the world for this type of study. The actual experiments were carried out (I mean them, not me) on eight "unknowns" which were designated as "Three Star (Dry Pale)," "Three Star (Brown)," "Dry Don," "Amontillado," "Apitive," "Brown Bang," "Armada Cream," and "Royal Pemartin." The "Double Blind Technique" was not used, as it was thought that the end point of these experiments was predictable. All procedures were carried out in duplicate, and twelve individuals participated in these investigations. The same end point was achieved by, and in, all observers. Here are the background data for the experiments.

The country around Jerez is gently undulating and between one hundred and five hundred feet above sea level. The soils used for the vineyards may be classed in three major groups. The *albariza*, which contains up to eighty percent of chalk. The *barro*, which is a clayed soil. And third, the *arenas*, which is sandy. The acreage of suitable *albariza* is relatively small. The grape vines are planted about five feet apart, two thousand to the acre. This number of vines will produce about five hundred gallons of wine when planted on *Albariza*. Vines planted on the other soils produce more wine, but its quality is lower. The vines are pruned back quite sharply to four branches on a sixteen-inch trunk. Fruit is produced on two of the branches in alternate years, and a vine produces for about twenty-five years. Then it is pulled out, and the land is allowed to lie fallow for a few years. There are three main varieties of grape used to make sherry: the *Palomino*, the *Mantuo Castellano*, and the *Pedro Ximenez*.

The grapes ripen about the middle of September and then the bunches are cut off, and are laid out on grass mats in the sun to dry out, thus concentrating the juice. *Pedro Ximenez* grapes are cut first and are kept in the sun for two weeks before pressing. The *Palomino*

* The Investigator wishes to thank George G. Sandeman Sons Co., Limited, of 10 Pizaro, 10, Jerez de la Frontera for their cooperation in providing a generous supply of the basic material on which all experiments were performed. August 26, 1958.

are sunned for but twenty-four hours. About fifteen hundred pounds of grapes are put in a press. Then two men wearing spiked rawhide boots trample the grapes to break the skins and get the juice flowing. Next, the grapes are pressed by a central screw. From fifteen hundred pounds of grapes one gets about seven-eighths of a butt (477 liters). These butts, when filled, are immediately taken to the *bodegas*, where very vigorous fermentation takes place. It is said that during this period the air of Jerez is continuously scented by the fermentation of thousands of butts of "must." When this fermentation tapers off, a slower and much less vigorous fermentation begins, and continues for about ten weeks, at which time practically every bit of sugar in the juice has been converted to alcohol. The *Pedro Ximenez* grapes, which have been sunned until they resemble raisins, produce a syrup on pressing, and because of its high sugar content (fifty percent), and due to the fact that brandy is added to it, it does not ferment easily and is used for sweetening and flavoring of other sherries.

When the fermentation has ceased, from each butt (and by the way, these butts are all made from Louisiana white oak) wine is drawn and is smelled, tasted and examined, butt by butt, and is either declared acceptable or is rejected. That wine which is considered acceptable is then put in fresh casks, and is laid away to develop in what are called *anadas*, which means the casks containing the wine of one particular year. At this stage, if one excepts the *Pedro Ximenez* wine, one is dealing with a completely dry wine, the alcoholic content of which is ten to twelve percent. It takes three or four years of aging before one can tell just which way any particular cask of wine is going. Therefore, at the end of the period in the *anada*, wine from each cask is smelled and tasted and is classified as *Palma* for *Fino* wine, *Palma Cortado* for *Amontillado; Palo Cortado; Oloroso*, and *Raya*. At this point the wines are again transferred to fresh casks, according to type. Then Nature steps out, and Man in the form of the manager-blender of the bodega, steps into the development of the wine during the *Criaderas* and *Soleras*. During these stages the blender carries the wine through, so that at the end of the Solera, there is a uniformity of style and quality in the final blends. This takes much skill and a great deal of experience.

The *bouquet* and character of sherry from Jerez is due to a special yeast which naturally ferments in the wine and which is known as the "flower of wine." There is a terrific growth of the "flower" in *Fino*, but its growth is less active in the *Oloroso, or Raya*. This yeast is strictly aerobic and consumes a great deal of oxygen. The casks are left open to the air throughout the period of fermentation, and a cask is never filled at any period to more than seven-eighths of its capacity. This permits a yearly evaporation of about five percent of the wine, a process which helps to mature the wine and increase its *bouquet*. The "flower of wine" grows continually, and after the period of activity, twice a year the "flower" sinks to the bottom of the cask where it forms the "mother of the wine." The "mother" must never be disturbed, because it helps to determine the style and character of the wine.

All sherries which reach the market are blended, and the art of blending, or, as they say in the trade, "marrying," the various wines which go to make up the final product is one which is not easy to learn and which is not undertaken hastily. The "marriage" of the various wines which go to make up a superb sherry may take months to consumate. Indeed, there are wines which have characteristics which make their "marriage" with other wines an impossibility, as such unions invariably result in separation. Finally, in the process of preparing sherry for the market, the "fining" of the wine is carried out by pouring the whites of sixteen broken eggs which have been whisked with sprigs of rosemary into the cask. Then the eggs and wine are thoroughly mixed in the cask, and left for a week or two. The whites settle, thus clearing the wine to the brilliance which one is accustomed to in fine sherry. The clear wine is then drawn off the top, bottled and sent to the market.

A fascinating day can be spent at the Bodega of Sandeman. There is an excellent small hotel in Jerez called the Hotel Los Cisnes where the food was quite good, and the *gazpacho* (cold Andalusian soup) was magnificent. Yes, they have a swan in the garden. I saw it before and *after* the experimental work was completed. Outside of the bodegas there is not much to see in Jerez.

Occult Intestinal Bleeding as a Cause of Anemia in Elderly People

"Our conclusions about iron-deficiency anemia in elderly people are in complete accord with those of Moore (1955), who states: '. . . although theoretically poor diets or absorptive defects may cause iron-deficiency over many years on a nutritional basis . . . it is far more likely that the cause is undetected loss (of blood) . . . This loss may be slight or intermittent and may have to be diligently searched for . . . It may take weeks or months until one can eventually demonstrate . . . (that) . . . occult hemorrhage (is taking place) . . .' The causes of occult intestinal blood-loss are, of course, many and various (ranging from peptic ulcer to uremia), but it is not our purpose here to discuss the role of each in the pathogenesis of anemia in elderly people or to assess the contributory role of such factors as hypoplasia of the bone-marrow. It is firmly our view that anemia is common in elderly people, and that the concept of a physiological anemia of old age is entirely erroneous. It follows automatically that, in all such cases, full and detailed inquiry should be made into the cause of the anemia and particularly into the source of any blood-loss." "Our self-imposed axiom was of course applied, but we have deliberately omitted all etiological data and discussion to avoid the possibility of deflecting attention from our single thesis. However, it can be briefly stated here that 64% of the anemic patients had organic lesions and in 36% no cause was found."

P. D. BEDFORD AND L. WOLLNER
Lancet

Diet, Blood Lipids and Health of Italian Men in Boston

"One hundred and eighty-nine healthy Boston men, aged 20 to 50, whose parents had been born near Naples but who themselves had lived all their adult lives in the United States, were found to have a mean serum total cholesterol level and dietary fat intake similar to that of other Americans and slightly higher than that of native Neopolitans.

Their likelihood of developing coronary heart disease was assessed indirectly by comparing the frequency of arteriosclerotic heart disease among male patients, aged 40 to 70 years, hospitalized in Boston and Naples, with a rate of 18% for the Boston City Hospital and 3% in Neopolitan hospitals.

Internal comparison of the Boston group revealed no significant differences in the mean blood lipid levels of subgroups when segregated according to differences in percent of dietary calories from fat, from unsaturated fatty acids, from 'essential' fatty acids, or from animal protein. The range of intake of these nutrients did not vary greatly among this group, so that failure to find positive correlations does not prove that such correlations would not exist when comparing groups with greater contrast in dietary patterns.

When the group was segregated according to ranges of age, relative body weight, cigarette smoking, blood pressure, electrocardiographic findings and family history of cardiovascular-renal disease or diabetes, appreciable differences in blood lipid levels were found."

D. C. MILLER, M. F. TRUESON, M. B. MCCANN, P. D. WHITE, F. J. STARE
Annals of Internal Medicine

A Note on the Older Worker in the Recession

"Through March 1958, the Census' monthly labor force reports have consistently shown lower unemployment rates for workers 45 years of age and over than for younger workers during the current recession. It has been assumed that this is a reflection of the concen-

tration of unemployment in the durable goods manufacturing industries. In these industries, not only is the proportion of employed older workers at a lower level than would be true in such activities as trade, finance, and services, but there is also more prevalence of seniority provisions which tend to make the younger workers the first to be laid off. It would follow, then, that if unemployment should grow and become more intense in these other areas of employment, the older workers would be affected to a larger degree.

Special reports collected by the Social Security Administration's Bureau of Old-Age and Survivors Insurance from its Regional Representatives and the managers of selected district offices throughout the country confirm this general picture but add significant sidelights on developments during the first quarter of 1958.

District Office Managers in the industrialized eastern and midwestern States report increases in the number of older workers (65 and over) applying for old-age insurance benefits. In areas that have been depressed for some time, such as parts of Maine and Pennsylvania, there has been little recent effect on the claims volume.

The Pacific coast has not shown much increase in claims thus far due to the delayed advent of the recession rather than other circumstances. Little effect has been noted in the South thus far.

In some areas, companies with pension plans with compulsory retirement ages over 65 or with flexible retirement age provisions are either pressuring workers over 65 to retire or are trying to establish a lower compulsory retirement age. In some cases, the employer or the union has persuaded the older worker to retire to avoid the necessity of firing a younger worker.

Some employed older workers who have never applied for benefits have now done so even though they are still employed. This action is taken to determine the benefit amount so that the worker will know what to expect and will know when reduced earnings reach the point where benefits can also be drawn. Such claims also act to determine and establish a monthly benefit amount before periods of low or no earnings become part of the wage record.

Some beneficiaries whose benefits were suspended due to earnings above the amount provided in the 'retirement test' have now had their benefits reinstated due to unemployment or reduced earnings.

In some States, the State laws on unemployment compensation provide an offset in the case of concurrent receipt of unemployment insurance and social security benefits. In these States, older workers file first for unemployment compensation (usually a larger benefit). An increase in old-age insurance applications is expected when these older workers exhaust their unemployment benefits. In other States, unemployed older workers are receiving both benefits simultaneously.

Though the survey was directed primarily at industrial areas, scattered reports from agricultural areas indicate that claims loads in farm areas have shown very little increase. A small number of older farm operators have given up farming and claimed social security payments because of the effects of the recession. In some cases, this has been an indirect process—the older farm operator 'retiring' in favor of a son who has lost his job or has been placed on a short workweek and who takes over operation of the farm to maintain his shrunken earnings."

U.S. DEPT. OF HEALTH, EDUCATION & WELFARE
Aging

Therapeutically "Refractory" Hypertension: Causative Factors, and Medical Management with Chlorothiazide and Other Agents

"1. Thirty-five cases of refractory hypertensive disease were treated with chlorothiazide in addition to therapeutic regimens previously shown to be ineffective. The majority of cases showed a definite and impressive hypotensive response. The mechanism of action of this drug in such instances was not clear, but in

some patients the absence of weight loss or diuresis suggests that its mechanism may not be entirely that of electrolyte loss.

2. Side-effects of these drugs, particularly gastrointestinal and hemorrhagic, are potentially distressing. Careful electrolyte follow-up should be provided.

3. The place of chlorothiazide in the therapy spectrum of hypertensive disease probably lies between reserpine, hydralazine and others, and the autonomic blocking drugs. If the first agents are not effective, chlorothiazide may be added to attempt to potentiate their effectiveness, prior to the use of the autonomic blocking drugs superimposed on a chlorothiazide-drug combination, if necessary."

R. E. LEE, A. W. SELIGMANN, M. A. CLARK, N. O. BORHAMI, J. T. QUEENAN, M. E. O'BRIEN

Annals of Internal Medicine

Hypertensive Cerebrovascular Disease: A Clinical and Pathologic Review Of 100 Cases

"A series of 100 cases of hypertension with autopsy has been reviewed, mainly with regard to neurologic features.

The initial symptoms were found to provide some indication with regard to the subsequent course of hypertension. The actual cause of death was of course not predictable, except that those with a "stroke" as the initial symptom most often died of a cerebrovascular accident.

About half of the patients had strokes due to vascular insufficiency or occlusion, and about half of these had more than one such episode. It is emphasized that in hypertension considerable damage to the brain may exist without its being apparent in the history or on clinical examination.

The mortality from intracranial hemorrhage was 31%. Ten percent of the series survived a cerebral hemorrhage (1 to 3.5 cm. in size), though in most instances death occurred later from another hemorrhage elsewhere in the brain. Blood was present in the cerebrospinal fluid in only half of these cases, and there may therefore be difficulty in distinguishing nonfatal hemorrhage from infarction. The need for caution in the use of anticoagulant therapy in severe hypertensives with cerebrovascular accidents is emphasized.

Mental deterioration occurred in 18% of the series, and was observed most often in association with strokes, but it sometimes existed in the absence of recognizable clinical episodes. This was usually found to be associated with multiple small softenings, both old and recent, throughout the brain.

Papilledema, when present, was usually accompanied by hemorrhages and exudates. No consistent correlation was found between the presence of papilledema and increased cerebrospinal fluid pressure, or between papilledema and the presence of cerebral edema at autopsy, uremia had frequently existed.

Convulsions occurred in 20% of the series, most often in the few days prior to death, in association with uremia, cerebral hemorrhage or thrombosis and shock."

ARTHUR J. HUDSON AND HERBERT H. HYLAND

Annals of Internal Medicine

A New Diagnostic Procedure for Mild Diabetes Mellitus: Evaluation of an Intravenous Tolbutamide Response Test

"Intravenous tolbutamide response tests were performed in 100 nondiabetic controls and in seventy-nine diabetic patients, and highly significant differences in the blood glucose responses of the two groups were observed. Whereas in nondiabetic subjects the blood glucose concentration fell sharply to a nadir between twenty and forty minutes after the tolbutamide injection, that of diabetic patients, including those with a normal and near-normal fasting blood glucose level, declined more gradually. Separation of the two groups was maximal at twenty and thirty minutes after the injection. At twenty minutes the blood glucose level of 94 percent of diabetic patients remained at 84 percent or more of pretest values, whereas in 96 percent of nondiabetic subjects it had fallen to 80 per-

cent or less of the pretest level. These levels have been arbitrarily selected as the standards by which the test can be interpreted with maximum accuracy. The zone between 80 and 84 percent of the pretest blood sugar level is to be considered as suspiciously abnormal though nondiagnostic. Failure of the blood-sugar concentration to decline to below 77 percent of the pretest value at thirty minutes gives additional weight to abnormalities at the twenty-minute specimen. The use of these criteria has permitted proper identification of diabetics and nondiabetics in the vast majority of subjects tested.

The intravenous tolbutamide response test appears to qualify as a diagnostic test for mild diabetes mellitus and should provide a useful supplement for the various glucose loading tests now used for this purpose. It has been found to be safe, simple, not unpleasant for the patient and has the advantage of requiring only thirty minutes for completion."

RODGER H. UNGER AND
LEONARD L. MADISON
Diabetes

Add Spaceman Stories

A spaceman recently came in on Third Avenue about 44th Street. Seeing a bar nearby, he went in and struck up a conversation with a blond lush. After buying her a couple of drinks, she became so irresistible to him that he just ate her. He then took off for outer space. On his way back he developed a bad belly-ache and on arrival he went immediately to see his doctor, to whom he told the story of his recent visit to the Earth. When he had finished, his doctor said, "*It's easy to explain what ails you. It must be that barbituate.*"

Koplik's Spots

" 'It is indeed very late in the day to describe something connected with the diagnosis of the exanthemata,' said Koplik in 1896. Born just a hundred years ago, on Oct. 28, 1858, he was 38 when he described his spots—having made his observations at the Good Samaritan Dispensary, New York. The first record of them is attributed to John Quier towards the end of the 18th century, but the only observer whose description is generally edition of Osler's textbook, published in 1892, known was the young Osler. From the first Koplik quotes:

'Examination of the throat may show a reddish hyperemia, or in some instances, a distinct punctiform rash. Occasionally this spreads over the whole mucous membrane of the mouth with the exception of the tongue.'

The merit of Koplik's detailed account lies in his shifting the emphasis from the palate to the mouth.

'There is nothing especially distinctive about the eruption in the pharynx, or on the hard or soft palate in measles. The throat, in the beginning, is reddened, the fauces, the soft palate, may be spotted but this is also the case in many affections, such as grippe, Rotheln, catarrhal angina, and scarlet fever,' and he goes on to add;

'On the buccal mucous membrane and the inside of the lips, we invariably see a distinct eruption. It consists of small, irregular spots, of a bright red color. In the center of each spot, there is noted, in strong daylight, a minute bluish white speck. These red spots, with accompanying specks of a bluish white color, are absolutely pathognomonic of beginning measles, and when seen can be relied upon as the forerunner of the skin eruption.'

The spots have stood the test of time. Perhaps Koplik's statement that the enanthem always precedes the exanthem is open to question, but no one doubts that the eruption is pathognomonic of measles. The only other clinical sign worthy of mention which has been described since 1896 is the 'illness of infection of measles,' which can be seen in some 10% of sufferers. Goodall gave the first account in 1925. He noticed a few children who, after exposure, developed symptoms highly suggestive of measles, which disappeared in a day or two but were followed within the limits of the incubation by a typical attack. In his thirty-

two years in a London fever hospital, Goodall saw 8 cases. Some of the so-called second attacks described before this symptom was recognized were nothing more than the true attack following the illness of infection."

FROM "ANNOTATIONS"
The Lancet

Use of Iproniazid in Ischemic Angina Pectoris

"Iproniazid has been given to 40 patients with severe angina pectoris from occlusive coronary artherosclerosis, and was highly effective in reducing the frequency and severity of anginal attacks. It appears to act by blocking pain and not by improving the coronary circulation. Side-effects are common; many of our patients complained of giddiness and two developed pulmonary edema, presumably from fluid retention. The blocking of angina may encourage the patient to be more active and may precipitate infarction. Because of this and the side-effects, the drug is not indicated for patients with mild angina pectoris. In a patient with severe and intractable angina it is of great value, especially if anticoagulant therapy can be given in addition. The patient can often be helped over a prolonged ischemic episode, the drug being withdrawn when the condition improves."

M. K. TOWERS AND PAUL WOOD
British Medical Journal

Occult Blood in Feces After Administration of Aspirin

"Occult loss of blood in the feces was proved to occur in about 70% of the 180 persons to whom aspirin in the form of tablets had been administered. The details of the conditions of this study and the criteria applied have been given. Results obtained with the 140 patients treated with aspirin in the wards of the rheumatology department were entirely comparable to those found in the control groups, consisting of 40 healthy volunteers.

It was possible to prove conclusively that aspirin was the cause of this loss of blood, as this phenomenon appeared to be reproducible. The quantity of aspirin administered did not have a great influence on the occurrence and the seriousness of the disorder. The most common doses were 1,500 mg. and 3,000 mg. a day. Identical results were obtained when aspirin in powder form suspended in water was administered to a small group and when the same persons were given tablets. Finally, the results obtained when coated tablets of aspirin were given are recorded.

It was possible to demonstrate spectroscopically and spectrophotometrically that a positive benzidine reaction after the taking of aspirin is indeed due to the presence of blood. In a number of cases it was shown on the basis of the strength of the benzidine reaction that the quantity of blood lost when aspirin was taken may not always be ignored."

L. TH. F. L. STUBBE
British Medical Journal

Work and Heart Disease: A Physiologic Study in the Factory

"How representative were the jobs studied? Although not selected for statistical purposes, the jobs appeared typical of those held by a third of the total working population of a large industrial city and by a large percentage of working cardiac subjects studied at the Work Classification Clinic of the Cleveland Area Heart Society. The jobs ranged from menial to managerial and from sedentary to active, and were distributed throughout all departments of these 3 metal-manufacturing plants.

The energy cost of the type of work studied is remarkably low in relation to other human activities. A champion athlete can maintain an energy expenditure of 26.5 calories per minute for several minutes during a 2-mile run or skiing.

Taylor et al. found that a group of healthy but untrained young men could achieve a maximum rate of energy expenditure of approximately 18 calories per minute on a treadmill. These rates are obviously unrealistic in rela-

tion to the requirements of daily work. Passmore and Durnin, reasoning from their own data, and those of German workers, conclude that 5 calories per minute during working hours 'probably represents the upper rates of daily energy expenditure that can be maintained regularly in heavy industry.' Garry et al., using methods similar to those of the present study, have found the average rate of energy expenditure by coal miners during the underground shift to be 4.3 calories per minute. In the same study, clerks at the mine had an average working rate of 1.7 calories per minute. In the present study, the average rate of energy expenditure was more comparable to that of the clerks. During the working shift for the entire cardiac group the rate was 1.97 calories per minute, ranging from 1.54 calories per minute for the miscellaneous group (planning clerk, tool and laundry crib attendant, etc.) to 2.35 calories per minute for the warehousemen (stock pickers). The energy requirements of these jobs therefore lie in the lower range of possible sustained-energy output. In fact, the workers may expend energy at a higher rate on the job than off. This surprising conclusion is based on the findings of Garry et al., that during the 8 nonworking waking hours 1,400 calories, or 2.96 calories per minute, were expended by coal miners and clerks, a rate which is higher than the average working rate for any of the groups in the present study. The low rates of energy expenditure at work are not attributable to heart disease as such, since no statistically significant difference in either average or maximum rate could be demonstrated when the cardiac subjects were compared with healthy men performing the same job. The subjects had not been downgraded to less difficult jobs because of the development of heart disease, according to the industrial physicians, consulting physicians and personnel managers.

Granted, then, that the energy demands of such factory work are not great, does the work nevertheless cause strain on the cardiovascular system of workers with heart disease? Certain individuals have been cited here who, in spite of the relatively light character of the work, developed heart rates of over 120 per minute or blood pressures of over 184 systolic or 90 diastolic, and electrocardiographic changes.

These physiologic alterations may have variable significance. When they occur singly and infrequently, as in the control group, they may be insignificant or secondary to obesity or benign essential hypertension. The concurrence of several abnormalities in the same subject is probably significant. Their occurrence in 2 subjects, who died unexpectedly within 4 months of the study, suggests encroachment upon a diminished cardiac reserve. It would be desirable, although not presently practicable, to monitor several parameters of cardiovascular function in the average cardiac patient at work. The Master 2-step test may be used to elicit such changes in the office or laboratory. It is important to recognize, however, that the Master step test calls for the expenditure of 8.5 calories per minute, a rate in excess of any peak observed in any of the workers studied.

Certainly an individual with heart disease, who can make this exertion without developing excessive heart rate, blood pressure or abnormal electrocardiographic changes, would not be expected to show adverse effects during a job requiring average peaks of 3.45 calories per minute, or an average sustained effort of only 2 calories per minute. On the other hand, the cardiac patient who does show an abnormal step-test response may be able to perform safely at the rates of energy expenditure required by his job. The decision to return such an individual to work may be made in view of the fact that merely keeping him at home without further restriction probably will not reduce his energy below that required by work. The patient's work may, of course, entail other forms of stress than those measured in calories, but emotional and personal problems may be aggravated and are seldom solved by keeping a worker idle."

AMASA B. FORD AND
HERMAN K. HELLERSTEIN
Circulation

Remember When...



OPERATING ROOM—LONG ISLAND COLLEGE HOSPITAL *1893*



The period between antisepsis and asepsis.
(Beards are still down,
as are also the sleeves.)
Franklin H. Martin reported
in the *J.A.M.A.* (March 18, 1893) on
"One Year's Work in Tubal and Ovarian Laparotomies.
Thirty-seven Cases without a Death."
Hunter McGuire, Surgeon-general
of the Confederate Army,
was president of the A.M.A.,
and in his presidential address, discussed
the Constitution and Code of Ethics of the A.M.A.;
Medical Examining Boards,
Secret and Poisonous Medicines,
Smallpox, Typhoid Fever, etc.;
Quarantine, National Board of Health,
and the *Journal of the A.M.A.*
(He covered the water front.)
Asiatic Cholera was present in New York City.
Johns Hopkins Hospital (then four years old)
was mentioned as one of the three great hospitals
of this country (*J.A.M.A.*, September 16, 1893),
which were rated superior to any in Europe.
Diphtheria was a major problem.
Vivisection was agitating the profession.
Allen De Vilbirs, M.D., of Toledo, Ohio,
was demonstrating
"New Devices for Cutting Bone"
(*J.A.M.A.*, December 30, 1893).

Photo: Culver Service

OFFICE SURGERY

Varicose Ulcers

In the group of patients with moderate and severe varicose veins there will appear a certain number with chronic ulcerations. They are for the most part associated with pitting edema, woody fibrosis, cyanosis, pigmentation, and cellulitis. The histories of these patients are typical. They have had long standing varicose veins with edema of the ankle and lower leg. Slowly over a period of months the lower leg area, particularly on the medial side, becomes quite fibrotic with a characteristic wooden feeling. There is also at this time pigment changes—the skin becoming pigmented a dark brown. Minor trauma will then produce a break in the skin and soon there will be associated secondary infection because of the poor tissue resistance.

In patients with a history of previous deep phlebitis the findings are the same except for the absence at times of obvious varicosities.

These ulcers are as a rule rather indolent and progress slowly. These shallow punched out areas with granulation tissue at their base gradually coalesce, enlarge and deepen. The surrounding skin becomes cyanotic, and the bed of the ulcer changes into dense infected fibrous tissue. The walls of the ulcer become necrotic, although remaining sharp and steep.

Treatment

The treatment for varicose ulcers of the leg consists of reversing all the factors which lead to the development of the ulcer. The treatment will vary from patient to patient depending on which factors are most prominent.

(A) In the patient who first presents with a massively swollen red-blue cellulitic leg with fibrosis, pigmentation and badly infected crusted leg ulcers the following initial treatment is recommended:

(1) Bed rest.

(2) Continuous warm wet soaks.

(3) If arterial circulation is at least fair marked elevation of the leg on three or four pillows.

(4) Systemic antibiotics (i.e. penicillin and streptomycin or any other appropriate combination).

(5) Daily debridement of the loose necrotic tissue. Comment: Although antibiotics are not absolutely necessary they are probably of some help in the treatment of the cellulitis. As a matter of fact many patients who cannot tolerate any of the usual antimicrobial agents seem to get well just as quickly as those who are treated vigorously with them.

It is important for the elderly patient who is put to bed to have Ace bandages put on the unaffected leg and to be taught to exercise his quadriceps muscles while on bed rest. In the vast majority treated with marked elevation and warm wet soaks, the stage of massive edema and cellulitis will recede in forty-eight to seventy-two hours. The daily debridement of necrotic tissue will aid the formation of a clean granulating surface.

(B) The ulcer which is badly infected is best treated initially with the hot wet soaks and de-





FIGURE 1

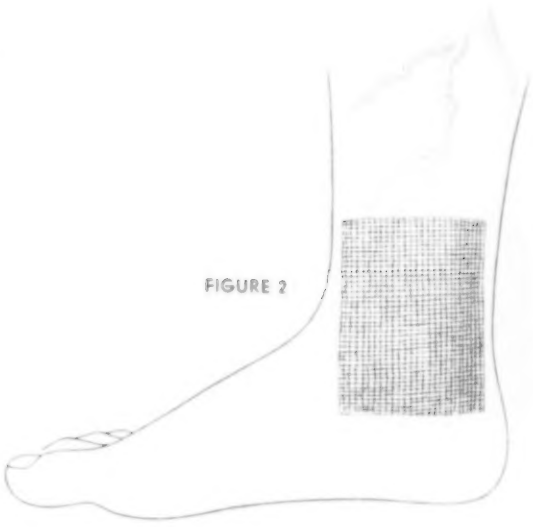


FIGURE 2

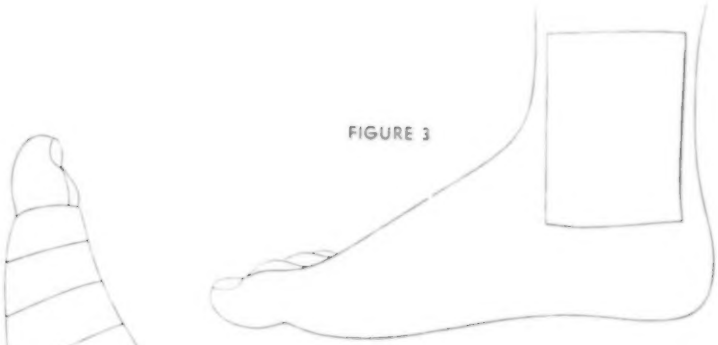


FIGURE 3

FIGURE 4

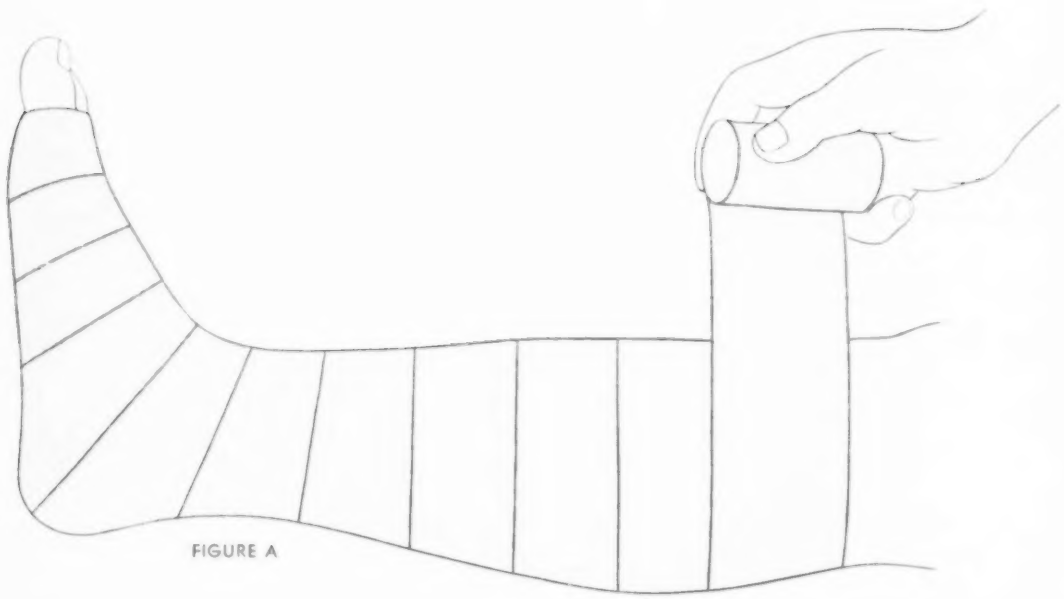


FIGURE A

bridement (as above). During the next phase of healing, mobilization may be allowed, but should be limited, and rest with elevation continued at intervals during the day. The ulcer may be covered with any of the various mild antibacterial ointments or antiseptic ointments available commercially which will aid in the production of luxuriant granulation tissue. During this period of beginning mobilization Ace bandages are applied from the toes to below the knee as illustrated. Figure A.

(C) After the cellulitis and gross infection has been cleared, a decision must be made as to the long term management. Many ulcers even though quite large will heal satisfactorily with help. Others, however, will need skin grafting or even extensive removal of deep fascial strips in addition to high ligation and stripping of the saphenous system. In treatment of the chronic ulcer continued efforts must be made to control the edema as well as maintain good wound toilet. One of the great aids in the ambulatory treatment of varicose ulceration are the gelatin bandages. Many good commercial bandages (moist zinc-gelatin) are now available at reasonable cost; thus obviating under most circumstances the need to prepare one's own Unna's paste. The careful snug wrapping of the affected lower leg will offer continuous compression and aid in preventing venous stasis by obliterating the superficial veins by pressure.

In the beginning if the ulcer drains a great deal the paste boot may have to be changed every few days. Later it may be left on for two to three weeks at a time. The paste may be applied directly to the ulcer, unless otherwise specified by the manufacturer. During the early weeks of treatment when the ulcer still weeps excessively it is at times easier to place medicated gauze on the ulcer, place a sponge rubber pad (one-half inch thick) over it and wrap the leg in Ace bandages from toes to just below the knee.

Various medications may be applied to the gauze to aid healing. The gelatin bandage must be used four weeks after the ulcer has healed. (See Figures 1, 2, 3 and 4.)

In conclusion it may be mentioned that efforts to rule out cutaneous tuberculosis or syphilis, and sickle cell anemia must be considered routine.



MEDICAL JURISPRUDENCE

The General Practitioner and the Law

GEORGE ALEXANDER FRIEDMAN, M.D., LL.B., LL.M.

A general practitioner has been defined as "a man or woman who has received an M. D. degree from a recognized medical school. He has served an internship in a general hospital. He ministers to the daily illnesses of the whole family, and has the responsibility of caring for a high proportion of the ailments of this country."[1] Defined negatively the general practitioner is a physician who does not limit his practice to a single or particular field of medicine although he may exclude from his practice treatment of certain diseases or injuries, whether medical or surgical.

The problems in malpractice which the general practitioner can encounter range over the entire medical and surgical field. For while the major part of a general practitioner's practice deals with strictly medical problems he ordinarily practices within all the many fields of medicine.

It is interesting to note that despite the wide range of the G. P.'s practice a recent study has indicated that the incidence of malpractice claims against the general practitioner is no greater than those against the specialist.[2]

A general practitioner must possess and exercise that reasonable degree of skill, knowledge, and care ordinarily possessed and exercised by members of his profession under similar circumstances. He is not legally bound to exercise the highest skill medical science knows, nor even the highest degree of skill and care possible. He must exercise an average degree of skill and care.

This rule was established late in the nineteenth century. So in a case where plaintiff claimed defendant physician negligently treated him for a rupture of the ligaments whereas the real nature of the injury was a fractured patella, the court in discussing the law of malpractice said: "The rule in relation to learning and skill does not require the physician to possess that extraordinary learning and skill which belong only to a few men of rare endowments, but such as is possessed by the average member of the medical profession in good standing."[3]

Furthermore the criterion to which the general practitioner is held is not that special degree of skill and knowledge possessed by specialists or experts who devote special study and attention to the treatment of a particular organ, disease, or injury. As the court said in a New York case: "The law does not exact of a physician generally that high degree of knowledge

and skill usually possessed by a specialist. The standard by which he is judged is the skill and knowledge of the ordinary practitioner of his locality."[4]

Looking at the question from the point of view of a specialist was a 1950 Iowa case. Defendant physician, an expert on the treatment of varicose veins, cut the artery in plaintiff's leg instead of the vein. Gangrene resulted and amputation proved necessary. In discussing the standard of care required of the specialist the court made two important statements: (1) "Furthermore it is to be remembered that defendant physician was an expert or specialist in the treatment of varicose veins and plaintiff had a right to believe he was more skillful in such matters than the ordinary general practitioner." (2) "A specialist is required to exercise that degree of skill and care ordinarily used by similar specialists in like circumstances having regard to the existing state of knowledge in medicine and surgery, *not merely the average skill and care of a general practitioner*."[5]

Throat Ailments

Plaintiff while eating chop suey at an evening meal swallowed a small pork bone which became lodged in her esophagus. Within an hour she visited defendant, a general practitioner, for treatment. Defendant made two unsuccessful attempts to remove the bone by using an instrument carrying a piece of surgical cotton on its end. He then advised plaintiff he could do nothing more for her and recommended a specialist who could use an esophagoscope.

During this latter operation the operating physician testified he removed surgical cotton from the esophagus together with the bone. Subsequent examination disclosed a tear in the esophageal wall which caused plaintiff to become seriously ill.

Defendant in treating the patient wrapped cotton around a probe about fourteen inches long and forced it down plaintiff's throat as far as he could. Plaintiff testified: "It caused a sharp pain. Then the bone in my throat slipped. I didn't have that choking." Defendant removed the probe, wrapped it with cotton again, and tried a second time to remove the bone. Some hemorrhaging occurred.

Several general practitioners testified that the procedure adopted by defendant was not good practice considering the present standards in the profession for the general practitioner and furthermore testified that this procedure would be dangerous to plaintiff.

The jury brought in a verdict for plaintiff in the amount of $7000. Defendant appealed the judgment claiming that the judge instructed the jury that defendant should have exercised the skill of a specialist in treating cases of this kind; that inasmuch as defendant did not claim to be a throat specialist or esophagoscopist, but merely a general practitioner he should be held to the standards only of a general practitioner. The appellate court agreed that the standards to be applied in this case were those of other general practitioners. It held however that nothing in the words of the trial judge, namely, "ordinary ability and skill" to be applied with "ordinary care and diligence according to the circumstances of the case," was suggestive of a specialist.[6]

Failure to Administer Insulin

Plaintiff, a diabetic, injured her thumb at work. It failed to heal properly and she came under the treatment of her employer's physician. The defendant physician removed her nail, but gave no insulin treatment, although plaintiff informed him of her diabetic condition. Physician continued treating her for five days. During this time he took no blood-sugar test, no urine analysis, and administered no insulin. The infection spread. Plaintiff was removed to a hospital where she received an immediate insulin injection. A portion of the left thumb was amputated, and long incisions made in her left wrist and forearm.

The Court held that any skilled physician should have had his suspicions aroused concerning a possible diabetic condition where a comparatively slight injury took such a long time to heal. Plaintiff was awarded $6,000.[7]

Defendant was a general practitioner. He diagnosed plaintiff's illness as cerebrospinal

syphilis and decided to administer a series of injections of a potent drug preparation known as tryparsamide, an approved treatment for the disease. Plaintiff was given twelve successive injections of this arsenic base drug at intervals of four or five days. After the third injection plaintiff complained that his "eyes are getting a little blurry." Defendant assured him this condition was only temporary. Plaintiff became virtually blind.

Each ampoule containing the drug had around it a pamphlet in which the directions were clear that there must be immediate cessation of the drug in the event of ocular disturbances.

Judgment was for the plaintiff.[8]

Defendant, a general practitoner, treated plaintiff for secondary anemia by injecting liver extract. Plaintiff developed an abscess from which a more serious back condition developed. He was confined to bed for two months with "tubes draining from the back" and had pains for nearly a year. Defendant had previously injected three other patients with extract from the same bottle, all of whom had developed abscesses.

Defendant claimed the fault was the negligent preparation of the extract by the manufacturer. The Court held that even were this so defendant was also liable since he had notice that harm to the plaintiff would be likely to follow the injection. He was put on such notice by the abscesses which had developed in his three other patients. There were ample cautionary signals and if, in the face of them, the doctor injected the same substance in the same way into plaintiff his action could reasonably be characterized as negligent.[9]

Failure to Take X-Rays

Plaintiff, a 44-year-old carpenter, fell 12 to 14 feet from a barn and "lit" in a sitting position. Defendant found no injury of the spinal cord or nerves. The next day he took an x-ray from an anteroposterior and not a lateral view. His machine was not equipped with a certain device which would enable him to get a lateral view through the lower back. Only the fourth and fifth lumbar vertebrae showed up on the picture.

Defendant assured plaintiff he had no broken bones and dismissed him. Plaintiff remained at home for three months, and attempted to walk by pushing a chair in front of him. He



stayed in bed much of the time and suffered constant pain. At the end of three months he consulted another physician who discovered a compression fracture of the third lumbar vertebrae.

The Court held that ordinary care required defendant to use x-ray to aid his diagnosis of the bone injury. Partial x-ray was as useless as no x-ray in this case. The duty on the G. P. to use x-ray as an aid to diagnosis of bone injuries is no different from the duty of the specialist.[10]

In addition to failure to secure x-rays of the appropriate parts of the skeletal system, many claims of malpractice arise because of failure to secure post-reduction x-rays to show good alignment of fractures.

Other Problems Encountered in General Practice

Some of the other causes for malpractice complaints are failure to test for sensitivity to drugs used in diagnostic procedures or treat-

ment; complications from the use of blood or blood plasma; burns and injuries from diathermy and heat lamps and x-rays; improper x-ray dosage or faulty equipment.

When the general practitioner attempts to deal in fields of medicine which require more study and which are a recognized specialty the line dividing the standards of care between him and the specialist become less pronounced. Some courts in such cases hold the G. P. to the same standards as the specialist. This will be discussed in the next section.

Duty to Call in a Specialist

When a general practitioner discovers or should know that the patient's ailment is beyond his knowledge or technical skill it is his duty to so advise his patient and recommend other treatment. If the G. P. attempts to treat the patient himself under circumstances where other general practitioners would advise a specialist he is held to the same standard of care as a specialist.

As frequently happens the courts find it easier to state the general rule than to apply it to each particular case. "The general practitioner's duty must always be measured in relation to the facts in the particular case. In determining a course of action, he may and should consider such elements as the patient's mental and emotional condition, his known financial situation, and the many other variants which a physician meets in treating human ailments."[11] Another factor to be taken into consideration is whether an emergency exists and no practitioners more highly qualified than he, is available.

A general practitioner performed an operation for ulcers of the rectum. A broken needle was left in the wound. During the next six months the defendant tried various modes of treatment to cure the resulting pain without success. At no time did he call in a rectal specialist. Patient finally consulted a rectal specialist, who discovered and removed the broken needle. The court said that "The localized pain in this case might have suggested to a careful physician the cause of the patient's suffering. A long continuance thereof without relief under the ministrations of the general practitioner might properly . . . suggest recourse to a specialist on rectal disorders." The court did not suggest that the defendant was negligent in breaking the needle, but that the localized pain might have been a warning to a man of skill that the broken needle was at the sensitive spot.[12]

A general practitioner treated plaintiff when a foreign substance entered plaintiff's eye. Although he was without the proper instruments to examine the eye he diagnosed the malady as a common cold and treated patient accordingly. He advised patient at the end of a week when the condition had worsened that it might take a month for recovery. At the time of the original examination and throughout the month the symptoms were those of a "detached retina." The evidence was sufficient to warrant a finding of negligence.[13] An alert practitioner would have been warned by the symptoms, and would not have attempted to treat them.

More difficulty is experienced by the courts in deciding cases involving treatment of fractures. At what point—if at all—should the case be referred to an orthopedic man? When the fracture fails to mend after treatment or immediately, without attempting treatment? This question can only be answered by each doctor on the facts of each case.

Two somewhat similar leg fracture cases in different courts were decided differently. In both cases there was a non-union of bones after the usual maximum period for the healing of a leg fracture. Both physicians thought ultimate success was assured. The delay in proper treatment in both cases caused poor final results.

In one case the court held that physician was not negligent, but made an error in judgment which was not actionable.[14] In the other case physician was liable for malpractice in not recommending a surgical operation by a specialist or experienced bone surgeon.[15]

Where there are no symptoms to warn physician that his diagnosis is erroneous or that the ailment is not responding to treatment he can-

not of course be liable for failure to recommend a specialist.

Physician treated plaintiff for conjunctivitis instead of glaucoma and he became totally blind. Testimony brought out that diagnosis and treatment of this rare disease could be made only by specialists. Its prominent symptoms however are so nearly identical with those of conjunctivitis that the diagnosis made by defendant was one reasonably to be expected from a general practitioner.[16]

A dentist, a general practitioner, undertook to extract a completely impacted left lower second bicuspid. During the extraction the mandibular nerve was bruised or severed. Patient claimed the dentist should have referred him to an exodontist for extraction. Experts testified on behalf of the dentist that many G.P.'s do their own extractions. "It all depends on how the man feels about his ability." Moreover in this case there was complete failure of proof that in extracting the tooth the dentist did not use the skill and care of a specialist.[17] The defendant testified that one of the reasons he decided to undertake the extraction was because plaintiff indicated he could not afford the added expense of an oral surgeon.

Plaintiff, a rancher in Lodi, California, suffered complicated leg fractures which defendant, a general practitioner, undertook to treat. As a result of the treatment plaintiff suffered partial, if not total, and permanent disability. The closest orthopedic man was fourteen miles away. The fracture was rare and complicated, and no emergency existed.

The court held that the general practitioner should have referred patient to a specialist. "The general practitioner, and not the patient is in a better position to know when the services of a specialist are called for."

The court went on to say that where the general practitioner undertakes a specialized service and if in his locality there are those who specialize or whose practice is limited to that particular branch of the healing professions then it is his duty to possess that degree of learning and skill ordinarily possessed by those who specialize in such practice in that locality.[18]

Effect of Testimony of the Expert Witness Who Is Not a Specialist

As in most malpractice cases expert testimony is essential to establish negligence. If the issue is failure to call in a specialist, the expert witness for the plaintiff, either a specialist or a G.P. must testify that under the same circumstances other general practitioners would have referred patient to a specialist. Or else a physician, preferably a specialist, must testify that defendant failed to have and observe the same knowledge and care a specialist would have possessed.

The family doctor diagnosed patient was suffering from a tumor instead of pregnancy and referred patient to a specialist for treatment for tumor. No expert testimony was offered by plaintiff as to the standard way of diagnosing and treating the case. Plaintiff lost the case.[19]

May a general practitioner testify about a particular field in which he has not specialized? Most courts say, "yes." When it comes to giving testimony a physician, regardless of his practice and experience, is an expert. His opinion on questions concerning his profession and practice is admissible in evidence.

The trial court excluded the testimony of a general practitioner in determining a question of insanity. The appellate court held this ruling was erroneous: "While he did not qualify as an expert on mental and nervous diseases, we think his qualification as a general practitioner would be sufficient to authorize him to express an opinion."[20]

But the opinion of a specialist may be of more value, and may be given greater weight, compared to that of a general practitioner.

Summary

1. A general practitioner is a physician who ordinarily practices within all the many fields of medicine. He ministers to the daily illnesses of the family. He does not limit his practice to any particular field or branch of medicine.

2. A general practitioner must possess and

exercise that reasonable (average) degree of skill, knowledge and ability ordinarily exercised and possessed by other general practitioners under similar circumstances.

3. The general practitioner is not held to that higher degree of skill and care possessed by specialists.

4. The most frequent malpractice complaints against physicians engaged in general practice are failure to test patients for allergic reactions to drugs; misuse of drugs; use of unsterile instruments; failure to use x-rays in treatment of fractures; poor result from fractures; faulty equipment; burns from x-ray or diathermy machines; and improper x-ray dosage.

5. When a general practitioner has not the knowledge or ability to treat certain cases he must recommend or call in a specialist.

6. Some of the factors to be considered in deciding whether a specialist is required are the patient's mental and emotional condition, his financial situation, the presence of specialists in the area, whether any emergency exists, and what other general practitioners would do under the same circumstances.

Each case must be decided on its own facts.

7. If a general practitioner does attempt work which requires specialized service he is bound by the same standard of care applicable to the specialist.

8. While general practitioners can testify as expert witnesses in court, in fields in which they do not have specialized knowledge, the opinion of a specialist may have greater value and may be given greater weight under certain circumstances.

9. The weight of the evidence given by the general practitioner as an expert witness will be high in cases where testimony of a general practitioner is particularly applicable. For example, where he can testify to the standards of care or proper procedure of other general practitioners in the community.

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133 East 58th Street





The Doctor Makes a Speech

ARTHUR L. KAY

Whether the content of your talk is general or technical, you'll be expected by your audience to observe certain platform proprieties — such as knowing when to stop. Here are some tips to guide you.

If we consider that persuasive remarks to a controlled audience of one or more persons is a speech, almost everyone in society engages regularly in the making of speeches.

But it is the more formal type of public speaking that concerns us here—for it is in the formal peroration that most doctors go astray.

The formal forms of speech-making are the full-scale address, chairmaning of same, after-dinner remarks, and remarks at the presentation or acceptance of an award or gift.

Robert T. Oliver[1] in an interesting social study points up the necessity of public speech to our way of life. "Democracy," he says, "may be said not so much to depend upon persuasive speech as to be persuasive speech." And, in regard to the role of the untrained speaker, "The mastery of persuasive speech cannot be considered the accomplishment of specialists, but must be an integral part of the normal requirements for civilized living."

Yet, although there is no mystery as to the requirements, there are techniques that should be learned by anyone who expects to speak before a large group.

Formal

The formal speech is the most serious public speaking challenge the doctor faces. Its three facets are subject, construction, delivery.

Ivan Gerould Grimshaw[2] writes that the speaker must deal with a subject in which both he *and* the audience are interested. Librarian of Beloit College, Grimshaw suggests seven sources for material:

general books
periodicals
newspapers
encyclopedias and year books
pamphlets
government publications
general and specific reference books

Edward J. Hegarty[3] says, "Sprinkle it with conversation. Talk about people." Good advice? Well, what would you like to hear as a member of the audience? Surely not a solid hour of statistics without an occasional bit of relief.

Construction

Construction-wise the speech must have, as the wags say, a beginning, a middle and an ending. But it is no joke that without these clear-cut internal demarcations the speaker can lose himself. Who has not suffered through a speaker who can't find his way back from a side trip? Or one who doesn't know where to stop?

Beginning and ending are the attention-grabbers. They are carefully worded, possibly even memorized.

Grimshaw has a highly meticulous technique for speech-writing. It involves note-taking on cards, the assembling of a card file, the preparation of *three* drafts of the speech.

But most speech counselors advise only a synopsis of the salient features.

Delivery

The delivery of a speech, as everybody knows, can make a mediocre speech exciting or a good one a crashing bore. Eugene E. White and Clair R. Henderlider[4] warn that reading from a manuscript is to be advised only for those who are adept at it. It is too inflexible a medium. Allowing no room for spontaneous insights gained in the course of the speech, it prevents the intimacy, the all-needed rapport of speaker with audience. An outline resting in view on the lectern, however, is another matter.

The language of the speech is delivered in short, clear sentences and is unimpeded by either involved vocabulary, slang or clichés.

William G. Hoffman[5] has this advice for the manner of the delivery. "Your voice should be of moderate speed and volume, never shrill, thin, hurried or too slow. Don't put your hand to your face or over your mouth. Don't walk from side to side. . . . Don't take uneasy steps back and forth. Don't lean backward or rest too heavily on your heels. . . . What to do about the hands is a problem for many speakers. They put them in their pockets, behind them, across their chests, anywhere except where they naturally belong — at their sides."

Wilfred Womersley[6] writes that lack of audibility is a common fault. Speak, he says, as if to the person farthest away. In gesture be natural, spontaneous. In walking to the podium, take your time, set your notes down, acknowledge your chairman, smile, be relaxed.

Fright

Lawrence W. Rogers[7] offers a five-point program for overcoming stagefright:

- Prepare your message well.
- Concentrate on what you are going to say.
- Show enthusiasm for your subject.
- Remember that your listeners have no copies of your speech.
- Your life is not at stake.

If you need more help, try Martin J. Kohe's[8] seven aids to self-confidence.

- Have something definite to say.
- Think it is easy and you can.
- It is perfectly natural to be nervous before you start to talk — as soon as you get started, the nervousness will gradually leave you.
- Relax your hands.
- Breathe deeply.
- Stand still before you start to talk.
- Start to talk slowly.

Pronounce

We should like to interpolate here from our own past experience as newspaper reporter of many a lecture and banquet. The swayer—back-and-forth or side-to-side — is a major menace of the podium.

And the arty pronouncer is as wrong as the malpronouncer. We recall wryly the esthete, on the occasion of our late arrival, whose "yoomans" baffled us until we recognized it not as the name of a popular composer but the speaker's version of "humans."

Hegarty says, "Write it to Joe." Tell it to him that way, too. (To insure correct but sensible pronunciation, the speaker might well deliver his talk first to a particularly forensic friend. He is advised also to buy, browse through and use discriminatingly the excellent compendium of commonly pronounced and

mispronounced words of the National Broadcasting Company.")

Questions

One possible final problem remains for the speaker when his talk is done. If a question period follows, he will have to answer or parry questions to his audience's satisfaction. He may be judged here so harshly that his fine speech is nullified. Alfred Tack[10] suggests for difficult questions that the speaker either relax the audience by using the agreement technique or ask the questioner to expand and further expand his viewpoint until its own faults become evident. The speaker can admit to not knowing the answer. He can disregard or smile at the foolish or insulting question. *He can never become angry.*

Chairman

The art of being successful chairman to a speech—or m.c. at a banquet—calls for considerateness as much as skill. Mr. Tack describes entertainingly the wrong kinds of chairman. They are The Flatterer (self-descriptive), The Director (he tells the audience what they should expect the speaker to say), The Thief (he explains the material of the speaker as he introduces him), The Humorist (he keeps telling funny stories, to steal the limelight), The Chairman-Speaker (he makes the speech himself), The Weak Chairman (he lets things get out of hand), The Seeker (while on the platform preparatory to his introduction of the speaker, he beckons or talks to someone in the audience or on the platform, holding up the main speech with his distractions).

The Ideal Chairman, says Tack, is firm and friendly. He has thought things out in advance. He has his facts right and presents them briefly. He doesn't try to steal the limelight—in fact, he would rather move off the platform and so leave it to the speaker. He knows the rules and he keeps to them. His aim is to be a good host.

After-Dinner Remarks

The after-dinner speech is one of the most common of the various types of occasional speech. Probably all civilized and barbaric people engage in after-dinner speaking, say White and Henderlider. In America, particularly, do we seem to be habituated to it.

Kohe offers the following for those invited to a dinner who sense a likelihood of being called on:

- Go prepared to say a few words.
- Go to the chairman of the banquet and talk to him.
- In case someone before you says something you wanted to say, agree by repeating what has been said, thus flattering the honored guest. Don't be speechless.
- Try to be original.
- Have a story ready.

Jessie Haver Butler[11] in her charming book advises:

- Don't jump up too suddenly — take it slowly.
- Don't apologize for lack of preparation or ability as a speaker.
- Don't abuse the supposedly humorous story.
- Don't speak too long. "If you don't strike oil in the first two minutes, stop boring," she quotes a Professor Roberts.

Give or Get

In tendering a gift to someone, an event which calls for appropriate remarks, Mrs. Butler warns that it is not wise to overpraise

the individual or the organization—or overstress the gift or the value of the gift.

And the recipient of gift should not say, "This is more than I expected" or "I don't deserve an honor as great as this." Be natural. And, of course, be brief.

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ACTIVE DUTY VOLUNTEERS

The Department of Defense has announced that 600 additional volunteer physicians are needed for active duty during fiscal year 1960 (1 July 1959—30 June 1960).

Dr. Frank Berry, Assistant Secretary of Defense (Health & Medical) stated that the number of applications for active duty from the present intern class is about 600 less than anticipated needs. Applications for active duty after 1 July 1959 will continue to be accepted until all vacancies are filled. If sufficient volunteers do not apply in the next few months, a call will have to be placed with Selective Service under the Doctors Draft next year.

What Kind of Practice?

Asking a question and suggesting answers, the author indicates that solo practice is on the way out. So is the traditional fee for service concept. The trend is toward prepaid, comprehensive medical care, preventive medicine guided by a well-trained GP. There are many pitfalls in the transition. The key is teamwork.

J. H. MEANS, M.D.

By the time the ranks of the residential hierarchy was reached, the decision as to what fragment of medical knowledge one wishes to apply for the benefit of patients, usually has been made. In most instances it is known by then whether the career is to lie in the practice of general medicine or surgery, in a clinical specialty, in research and teaching, or in something else. I will not attempt in this short article even to enumerate the variety of opportunities which open in these several categories. Rather, I will introduce certain considerations not of *what* you will practice, but of *how*.

I am sure that at your present state of professional advancement you have formed fairly accurate concepts of the general principles and technology of scientific medicine and surgery. You have become keen on diagnosis and treatment. You also, no doubt, have become familiar through the pronouncements of specialty boards, with the profession's blueprints, at least for practice in these restricted areas. But what I want to get at now is the broader social relations, responsibilities and obligations of the professional person in medicine in the type of society in which we find ourselves.

For the Patient

In the first place it is necessary to remember that medicine is a professional calling, existing for the purpose of supplying certain services to the people—all the people.

If it does not do this it has no reason to exist.

Medicine is for the patient, not for the doctor. Never forget that in medicine you have the duty to meet a need—not to sell a product.

Briefly stated, the objectives of medicine are to promote health, to prevent disease, to treat sick persons, and to rehabilitate the handicapped. All these are ingredients of the practice of medicine. Medicine also has the objectives of replenishing its personnel education and of advancing its knowledge and increasing its potentiality for service through research on all of its fronts. And finally, it has the duty of informing the public on these matters.

Thus stated, it is obvious that the total function of medicine is very complex. Serving it adequately requires both organization and division of labor. It is because division of labor is unavoidable that organization is necessary—organization to secure unity of responsibility,

People are entitled to round-the-clock, round-the-year, comprehensive medical coverage. But no individual doctor can supply this and still hope to lead the kind of life conducive to keeping him fit enough in mind and body to render such service. Teamwork of some sort is essential, yet it must be so well organized that no lapses in responsibility can creep in.

Every one of you must think through, long and thoroughly, just what responsible role in the vast complex of medicine you feel both inclined and qualified to undertake. The one, in other words, which will give the greatest satisfaction both to you and to your patients.

The way of life of the doctor is changing, along with that of everyone else in our society. If he clings to ancient privileges while trying to meet new challenges, he runs the risk of ultimate frustration. The good life for the physician, or for any professional person for that matter, lies in the consciousness of having served one's function well. For one, that function may be exercised in the research laboratory; for another, in teaching students. But for most it will be in the care of patients.

To those who go into medicine solely to gain social status, prestige, or material profit, such deep professional satisfactions are out of reach. Only those who truly love medicine can experience them.

The manner in which doctors are paid for their services is intimately related to their way of life. Generally, in the United States, practitioners are still paid by fee for service, the fee being determined by the doctor.

I hold, however, that this method is no longer in the best interest of patients except, perhaps, the very wealthy.

Prepaid comprehensive medical care is what more and more people are craving today. And this is best provided by practice groups of some sort with doctors paid by salary out of the pooled subscriptions received by the group. Benefits are paid to patients in service, not cash. The latter is very important.

Health Insurance Plan of Greater New York is the outstanding example of this type of development.

Its success is indicated by its steady growth in number of subscribers. Recently, *Medical Economics* asked 400 "distinguished" doctors, and some lay people with knowledge of the field, to guess what medical practice might be like in a decade. The consensus appeared to be that whereas today only about 20 percent of doctors are in any form of group practice, it was expected that in ten years' time 80 percent of doctors will be in group practice and only 20 percent in solo practice. It was further predicted that there will be more general practitioners percentage-wise than today, and that they will be better trained.

I would have made similar predictions myself.

There will, however, be many pitfalls along this evolutionary pathway. The relationship between the general practioner (generalist, I like to call him nowadays, although I think

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ABOUT THE AUTHOR

Boston born, bred and educated, Dr. Means has had nearly 45 years of active participation in medicine after Harvard (07) followed by Harvard Med and an internship at Massachusetts General Hospital. Appointed research fellow, the author remained at Harvard and Mass. General. In 1923 he was made Jackson Professor of Clinical Medicine and Chief of Medical Services, Mass. General. Throughout his long professional life, Dr. Means has studied thyroid problems and has also taken a strong interest in medical education. He is a past-president of the American College of Physicians, the Association of American Physicians, the Harvard Medical Alumni Association and the American Goiter Association. Dr. Means is the author of a number of scientific papers, a textbook "The Thyroid and Its Diseases," (Lippincott), also "Doctors, People and Government," (Little, Brown & Co., 1953).

One of medicine's best known elder statesman, Dr. Means continues active as director of the medical department at Massachusetts Institute of Technology.

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perhaps the very best name for him is personal physician) and the specialist, constitutes one of the greatest of these pitfalls.

Increasing emphasis is being given to the necessity of taking care of the patient as an entire human being in an environment which constantly conditions his behavior, and in which he is surrounded by other people who inevitably affect him. The point I wish particularly to stress is that care of the whole patient can never be achieved by specialists alone even though there be called in enough of these to cover every part of his whole mind and body. Some one, responsible, "integrating doctor" must tie all the contributions of specialists into one package for the good of the patient. This doctor preferably should be the generalist.

Pendulum

It is significant, I believe, that the composite professional view is being directed nowadays more and more at the general practitioner. Whereas, until recently, the specialist was the cock of the walk, now the general practitioner is being built up. This trend is one of those swings of the pendulum characteristic of human mass thinking which is likely to go too far in its direction, as did the ones preceding it go too far in the other. That it may do so is another of the pitfalls I have mentioned.

The general practitioner of the future, I am confident, will become a highly trained and competent professional person. Ideally, everyone should have such a doctor as his personal physician. Such a one, however, cannot be a medical Jack-of-all-trades as of yore. And he should not attempt to perform specialist jobs for which he is not qualified.

Rather he should fit into a scheme of things whereby he can work in effective harmony with such specialists as from time to time the problems of his patients require.

For competence in his general field he should be as well rewarded financially as are specialists for theirs in their special fields. Furthermore, if he can be included in the medical educational process in some way, his intellectual rewards and satisfactions may become as great as those of any specialist. I have in mind preceptorial establishments such as that of the University of Kansas which I have just visited. Here, the practitioner actually participates in the teaching of the medical student, and also from time to time has the opportunity to cultivate his own learning process through association with the center.

Complex Medicines

In my opinion, fee for service is no longer consistent with the best comprehensive medical care any more than is completely solo medical practice.

For the patient it makes it difficult, or impossible, to budget the cost of medical care, and it discourages his consulting the doctor until impressive illness besets him. It is inimical to the practice of preventive medicine in a day when preventive medicine and the promotion of health should be higher objectives than the treatment of illness.

For the doctor who abandons fee-for-service, I can see more abundant intellectual and emotional satisfactions in the practice of medicine. Doing this, of course, will necessitate his working in a team of some sort, but that is the way to render better professional service in the complex medicine of today. Competitive struggle for financial gain, which can be quite exhausting, will be removed. Security will be enhanced. And most important of all, a more well ordered life is made possible with enough leisure to ensure continuation of learning and to supply opportunity for enough relaxation to permit optimum performance during the time of work.

This is how I project the future of medical practice. And whether you elect to be at its forefront or prefer to entrench yourself to preserve the medical status quo, it is a choice worthy of your earnest consideration.



BURROUGHS

MEN
WHO
MADE
THE
MEDICINE



Henry Wellcome aboard the floating laboratory.

AND WELLCOME-

Adventure in Drugmaking

In 1880 two young Americans teamed up in a pharmaceutical enterprise in London. Their products won quick acceptance and their small business grew into a vast organization with outlets all over the world.

In 1932 Henry S. Wellcome received two high honors. He was knighted by King George V and was named an honorary fellow of the Royal College of Surgeons, a distinction shared by only a few other non-medical men.

Without doubt, Wellcome—pharmaceutical manufacturer, archaeologist and philanthropist—was at this time one of England's leading citizens. And he had gained this place of eminence entirely through his accomplishments. He was not a member of an old English family, but was in fact a product of the American frontier.

Wellcome was born on August 21, 1853, in Almond, Wisconsin, when this was still Sioux country. He was the son of a missionary, the Reverend Solomon C. Wellcome and Mary Curtis Wellcome. When the boy was about five, the family migrated west in a covered wagon.

When Solomon Wellcome took over his brother's drugstore in Garden City, Minnesota, in 1866, he little knew how this step was to affect the fortunes of his son Henry, who then aged 13, assisted him in supplying the frontier community with medicines.

At an early age Henry Wellcome moved to Rochester, Minnesota, where he worked with a firm of pharmaceutical chemists from 1868 to 1871. It was there that he came under the notice of Dr. William Worrall Mayo, father of the late Drs. William J. and Charles H. Mayo, founders of the internationally famous Mayo Clinic. Wellcome was a boyhood friend of the Mayo brothers, and this friendship was continued during his life.

The senior Dr. Mayo encouraged the young man to study pharmacy in his dispensary and arranged for his matriculation at the Chicago College of Pharmacy. During his attendance,

the Chicago fire destroyed the college. He then enrolled at the Philadelphia College of Pharmacy, and at the age of 21 was graduated as a member of the class of 1874. It was in Philadelphia that Henry Wellcome first became friendly with another pharmacist, Silas M. Burroughs, who was to become his business partner several years later.

Following graduation, young Wellcome went to New York and joined the firm of Caswell, Hazard & Co., a pharmaceutical house of high standing and reputation. During this association Wellcome continued in spare time to attend scientific lectures and to study under private tutorship. He began to contribute articles to the *American Journal of Pharmacy* and *The Pharmacist*. These articles aroused considerable interest among the pharmaceutical profession and brought him into communication with many of the leading pharmacists of America. He cemented friendships with such prominent men of the day as Professor John Maisch of Philadelphia and Professor Albert E. Ebert of Chicago.

Change

After two years with Caswell, Hazard, he resigned and accepted a position with McKesson & Robbins. Here his work in the manufacturing department required him to travel to various parts of the United States and Canada, and into Mexico, Central and South America.

In South America he had the opportunity to study the native cinchona forests. His findings were read before the American Pharmaceutical Association and published in its *Proceedings*.

At the same time, Silas Burroughs was also getting on in the pharmaceutical field. He was born on December 24, 1846 in Medina, New York, and in his youth was associated with a retail drug business in Lockport, New York. He was graduated from the Philadelphia College of Pharmacy in 1877, his thesis being "The Compression of Medicinal Products." It was not surprising that he was soon engaged to sell compressed medicines for an American company which sent him to London.

Experience in London led Burroughs to invite Wellcome to become his partner in an enterprise there.

For a long time Wellcome had been impressed with the advantages England had to offer; it not only was the commercial and distributing center for the world, but had extensive libraries, museums and educational institutions. These facilities had a strong appeal for Wellcome, an avid scholar throughout his life.

Founding

Wellcome made the trip to England and out of it came the founding of Burroughs Wellcome & Co. in 1880. The partnership was established with a capital of £2000, Burroughs putting in £1200 and Wellcome £800. Profits and losses were to be divided pro rata between them.

The two young Americans made quick headway. They applied their pharmaceutical experience in developing the compressed drugs business and became successors to William Brockedon who in 1842 had originated compressed medicines in the shape of biconvex discs. The advantages of this type of medication over the prevalent pill and potion were recognized by Wellcome and he recruited a highly skilled engineering staff to devise special machinery for the production of compressed products to a standard of precision never before attempted.

This was a matter of the first importance in view of the increasing use of alkaloids and other highly potent drugs. These compressed medicines could be transported in small bulk and would maintain their full activity under extreme conditions. Their world-wide distribution afforded a guarantee that a traveler could have his prescription dispensed with the same accuracy and quality wherever he might be.

The new firm did not take long to make itself known. With increased output and wider distribution, the company's compressed products were soon ousting the potion and pill in many markets.

It was not long before branches were opened in most of the principal countries of the world. The U. S. company, Burroughs Wellcome & Co. (U.S.A.) Inc., was established in 1906 and,

like the London organization, has both research and manufacturing facilities.

The personalities of Burroughs and Wellcome were quite different, according to those who knew them. It was said that Burroughs was a man of "intense mental, physical and commercial energy, of buoyant individuality and brilliant initiative," while Wellcome was a person with a "steady persistency, capacity for governing and directing others, shrewd judgment and love of executive work and care for detail."

Left with Responsibility

In 1895 Silas Burroughs died from an attack of pneumonia. He had been Wellcome's partner for 15 years and had made a significant contribution to the organization. In addition to being an outstanding businessman, he had proved himself an industrial humanitarian. Because of his strong interest in the welfare of his employees, he introduced the eight-hour day at a time when it was considered a Utopian scheme by most employers.

The sudden death of his partner left Henry Wellcome, at the age of 42, with the whole responsibility for an enterprise which had already grown enormously, being represented in most countries of the world, but which under his leadership, was to grow a great deal more. As the company prospered, Wellcome found he had funds to develop many projects.

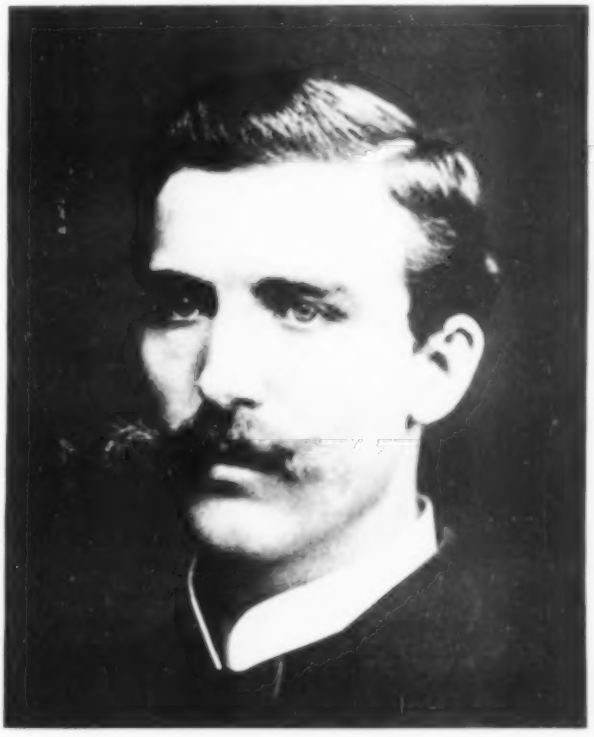
In 1894 Wellcome had founded The Wellcome Physiological Research Laboratories, the first of many to bear his name. It was obvious to Wellcome that firms such as his must carry out scientific research in their own laboratories.

In 1901 he founded The Wellcome Tropical Research Laboratories at Khartoum for the study of tropical diseases. In 1905 he set up The Wellcome Medical Hospital Dispensary, Uganda. A year later he established a floating research laboratory on the Upper Nile for the study of tropical disease.

Of the many distinctive insignia which are associated with pharmaceutical products, few are as widely known as the unicorn emblem which was selected by Henry Wellcome as the



The death of Silas Burroughs (above) left Henry Wellcome with a heavy responsibility.



general house mark of Burroughs Wellcome & Co. Printed on literature, advertisements, packaging material and embossed on bottle-caps, the "B.W. & Co." unicorn has become a familiar symbol wherever medicinal products are used.

Rivaling the pictorial unicorn device as a trade symbol is the brand name "Tabloid," first coined and introduced by Wellcome to denote products issued by Burroughs Wellcome & Co. This medical trademark was registered in 1884 and is one of a small number of words described in dictionaries as the property of a commercial firm.

In 1904 Wellcome decided to take legal action against all who were misusing the name Tabloid. The case became a cause célèbre of its day, and Wellcome himself was in the thick of it from start to finish. He finally established the firm's exclusive right to the use of the term as indicating products of its manufacture.

Varied Interests

After his dream of a world-wide organization had been realized, Wellcome began to free himself from personal attention to detail and to delegate duties to others. This freedom gave him the opportunity to pursue other strong interests.

There was archaeology, for example, and he supported two major archaeological expeditions: one to the Sudan, which he led himself, and the other, more famous, to Palestine. The latter, known as the Wellcome-Marston Archaeological Research Expedition to the Near East, investigated an area that is now generally accepted as the site of the Amorite City of Lachish.

He gained a reputation as a collector of objects concerned with medicine and pharmacy which now are part of The Wellcome Foundation Ltd. He was, where medical historical works were concerned, a great bibliophile, and a permanent reminder of this is The Wellcome Historical Medical Library located in London.

Wellcome now was an important figure in British public life, and in 1910 he became a British subject.

In 1924 he decided to bring together in one unit the many organizations in the various fields of pharmacy and medicine bearing his name, and for this purpose formed The Wellcome



The Old Stone Mill, said to be the oldest industrial building in Westchester County, N. Y. Burroughs Wellcome purchased it in 1926.

Foundation Ltd., a private company with a paid-up capital of one million pounds.

Research

When The Wellcome Research Laboratories were founded in 1894 the study of antibody formation was new. The principles which have since been worked out within these laboratories have been fundamental and of incalculable influence in saving lives.

The laboratories supplied 30 million doses of A.P.T. (alum precipitated toxoid) to the armed forces during World War II.

All phases of immunology have been embraced by The Wellcome Research Laboratories. They perfected methods for producing tetanus toxoid and whooping cough vaccine. They enhanced the usability of sera by developing methods to remove the protein fractions that cause anaphylactic reactions, leaving only the one to which the antitoxin is attached. They supplied enormous quantities of tetanus and gas gangrene antitoxins, thus refined, to the armed forces.

An important section of their work has been, and continues to be, the investigation of viral diseases; much of it has been on yellow fever. This began with the work of Henry Wellcome himself who was asked by the U.S. Secretary of War, in 1910, to inspect the sanitary conditions in the Panama Canal Zone. His report secured a free hand for General Gorgas to continue his monumental work.

Today the laboratories are engaged in developing an improved poliomyelitis vaccine, while producing the presently accepted one.

Isolation of plant alkaloids and glycosides and of animal hormones were among the first channels of investigation in The Wellcome Physiological Research Laboratories. Dr. T. A. Henry, who directed this section of the work, produced a textbook which has remained an international reference on alkaloids.

Arrow Poison

Various arrow poisons used by natives in different regions of the world have excited the curiosity of layman and scientist, the latter seeking a means of harnessing a potent drug to achieve a therapeutic usefulness. An African arrow poison, Strophanthus Kombé, was first in-



Presentation of the Remington Honor Medal to Wellcome (right) by Dean H. V. Arny of the New York College of Pharmacy.

vestigated by Sir Thomas Fraser who demonstrated its properties as a digitalizing agent.

Burroughs Wellcome took steps to procure supplies in spite of immense difficulties by sending emissaries to collect small reserves of arrow poison from the crude huts of central African warriors. Thus, the true Strophanthus Kombé was first introduced to the world before the close of the nineteenth century.

Ergot, long a baffling problem to scientific workers, was subjected to intensive investigation by The Wellcome Research Laboratories, whose director then was the eminent scientist, Dr. Henry H. Dale. These investigations yielded valuable direct results: the discovery of the alkaloid ergotoxine in 1906; p-hydroxyphenylethylamine, in 1909; and the isolation in 1910 of 4-beta-aminoethylglyoxaline which in the intervening years has proved to be of great interest in relation to anaphylaxis, various shock-like conditions, as well as more recently to the field of allergy.

His observations on the action of ergot in causing strong contractions of the uterus led Dale to the study of the oxytocic properties of extracts of the posterior lobe of the pituitary gland, and a preparation of posterior pituitary lobe was made available in 1908 to the medical profession by the company.

Continued ergot research resulted in further important contributions—notably, the isolation and introduction of ergotoxine ethanesulfonate, which has served as a standard for ergot alkaloids.

In pursuing his studies Dr. Dale was fascinated by the effect of a particular extract of ergot on different groups of nerves. His uncovering of the phenomena, revealed by this incident, was the first step toward the modern conception of the transmission of nerve stimuli, a study which earned for him and for Professor Loewi the award of the Nobel Prize in 1936.

Tropical Diseases

Being impressed with the massive loss of life due to disease in tropical climates, Wellcome wished his laboratories to give special attention to the problems of these localities. The scientists in London worked closely with those in the field and their influence has been far-reaching. They helped reduce amoebiasis with iodine and arsenic compounds, and cholera and enteric fevers with vaccines. Antimony compounds were developed which reduced the hazards of filariasis, kala-azar, and schistosomiasis. An important step in the fight against leprosy was made in the laboratories with the synthesis of a sulfone derivative which brought about an earlier clearing of the infection than was formerly possible.

These achievements, in addition to the work in yellow fever and typhus, were among the mainstays of the chemotherapy of tropical diseases, and many of the most famous men in the field were either working in the laboratories or in collaboration with the scientists there.

Interest in tropical diseases brought to the staff in the laboratories a special awareness of the problems of worm infections. Work by Harfenist and Norton in the Tuckahoe, N. Y., laboratories and by Standen in the London laboratories has resulted in the availability of piperazine citrate, the anthelmintic properties of which had long ago gone unrecognized. This is of interest throughout the world because this drug is so effective a means of eradicating pinworms and roundworms.

The above are some of the achievements of the Burroughs Wellcome laboratories. This type of research, considered so vital by Henry Wellcome, continues in the laboratories in England and the U.S.A.

Last Years

The closing years of Wellcome's life witnessed much public recognition of his services in the cause of human welfare. He became a life member of the American Pharmaceutical Association in 1875 and was elected as its honorary president in July 1931. In recognition of his scientific and administrative contributions to pharmacy, Wellcome was awarded the annual Remington Honor Medal in 1934. He was also made an honorary member of the American Society of Tropical Medicine and of the Association of Military Surgeons of the United States. In 1934 he received the honorary degree of



A man of scholarly interests, Wellcome sponsored two major archaeological expeditions. He is shown during expedition to Near East.

doctor of science from Marquette University.

Wellcome also received some of the greatest honors Britain bestows. In 1928 the University of Edinburgh conferred upon him, as a "Princely Patron of Medical Research, a generous friend of missionary enterprise, and an enthusiastic promoter of geographical and archaeological exploration," the honorary degree of doctor of laws.

He was made Officer of the Venerable Order of the Hospital of St. John of Jerusalem; an honorary corresponding doctor of the Ancient College of Doctors in Madrid; and an Honorary Freeman of the Society of Apothecaries of London.

In 1932 King George V knighted Wellcome in recognition of his life's work and generous support of medical research. On the same list to be knighted appeared the name of Dr. Henry H. Dale, now Chairman of The Wellcome Trust. A rare distinction was Wellcome's election, in that same year, as an honorary Fellow of the Royal College of Surgeons.

During a visit to America in 1935 Sir Henry Wellcome became ill and was treated at the Mayo Clinic. In 1936 he returned to England, and, after an operation, died on July 26. His death brought to a close, at the age of 82, one of the outstanding careers of his age.

Wellcome Trust

Rarely is a whole business undertaking bequeathed to the service of humanity, yet that was the arrangement Wellcome made before he died. Under his will the ownership of the Wellcome Foundation was vested in five trustees.

The aim of the Trust in disposing of the funds accruing from business, in the words of the will, was to be ". . . . the advancement of research work bearing upon medicine, surgery, chemistry, physiology, bacteriology, therapeutics, materia medica, pharmacy and allied subjects, and any subject or subjects which have or at any time may develop an importance for scientific research which may conduce to the improvement of the physical conditions of mankind and in particular for the discovery, invention and improvement of medicinal agents and



Sir Henry Dale, now chairman of the Wellcome Trustees, shared Nobel Prize for medicine in 1936.

methods for the prevention and cure of disorders and the control or extermination of insects or other pests."

The trustees were also charged with the maintenance of a fund for the establishment or endowment of research museums or libraries in any part of the world and for the collection of information of every kind connected with the history of medicine and allied sciences which in their opinion may be desirable.

A special bequest in the will provided for the erection of cultural facilities in Garden City, Minnesota. This community recently received $250,000 of a total bequest of $400,000, which will be used for the construction of a community center.

Though he became the citizen of another country, Henry Wellcome remembered the town of his youth, the place where he got his first experience in helping his fellow man, through the profession of pharmacy.

MEDICAL

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John T. Barrett, M.D.

Neurosurgery
E. Jefferson Browder, M.D., F.A.C.S.

Radiology
Maxwell H. Poppel, M.D., F.A.C.R.

A REPORT TO OUR READERS . . .

So many of you have written us during the past several weeks to express enthusiasm for the expanded Medical Times, that our stenographic facilities have been overwhelmed.

Until we catch up with our mail, may we take this opportunity of thanking each of you for this evidence that the editorial and format changes are being enthusiastically received.

It is our pledge to you that the new Medical Times will continue to be edited to match the pattern and pace of your busy family practice.

THE PUBLISHERS

ONE OF A SERIES ON

LEADING MEDICAL CENTERS



Affiliated with Harvard Medical School, Boston's "Peter Bent," a 289 bed general hospital, has an outpatient department with 35 different clinics.

PETER BENT BRIGHAM

Peter Bent Brigham Hospital is a 289 bed adult general hospital located in Boston adjacent to the Harvard Medical School, the Harvard School of Public Health, the Children's Medical Center and the Boston Lying-In Hospital.

It was named after a Boston merchant who bequeathed money to build a hospital "for the care of sick persons in indigent circumstances in the county of Suffolk." Brigham's executors believed that his purpose could best be accomplished by associating the institution with the Harvard Medical School, an affiliation which dates back to the hospital's opening in 1913.

Emphasis throughout the hospital is on individual growth and expression. To this end the house staff is given optimal responsibility for patients on the ward services, the visiting staff serving in a consulting and advisory capacity.

There are 90 beds each on the general medical and surgical services, approximately 80 beds in the private pavilion, and approximately 30 beds used for special research purposes including metabolic study, surgical investigation, neurosurgery and cardiac surgery.

An active outpatient department with some 35 different clinics had over 45,000 visits last year, and the emergency department, which serves both the City of Boston and the Town of Brookline, a total of 11,637 visits.

There are approximately 125 senior staff physicians, surgeons, radiologists and patholo-



Peter Bent Brigham Hospital with Children's Medical Center (upper left) and Harvard Medical School buildings in the quadrangle (right).

HOSPITAL

gists, all of whom have full or part-time appointments to the Harvard Medical School faculty. In addition there are more than 120 clinical fellows attached to the hospital's teaching and research units. Their fields of study include biophysics, metabolism and endocrinology, nephrology, hematology, cardiology, gastroenterology, psychiatry, experimental surgery, neurology, pharmacology, bacteriology, anesthesiology, and pulmonary physiology.

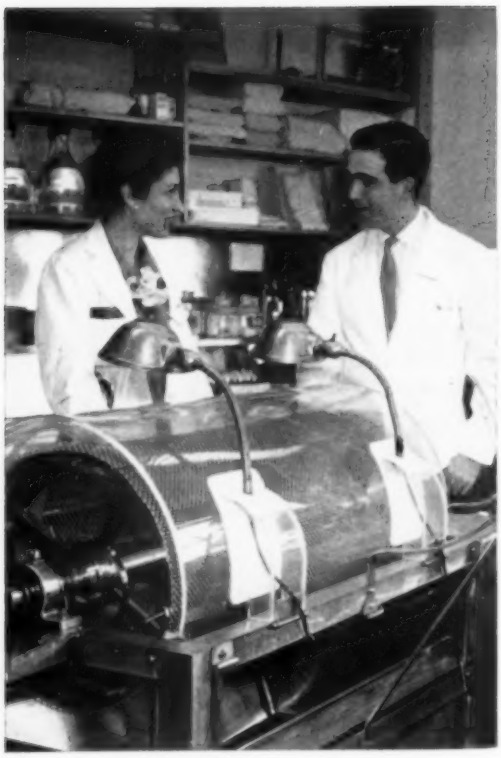
Conferences

Formal teaching conferences follow a weekly schedule and include clinico-pathological, radiological, medical, surgical, neurological, thoracic, peripheral vascular, diabetic and tumor conferences in addition to staff grand rounds. Current topics of medical interest are discussed at the weekly medical service tea and each year a course in electrocardiography is offered to which all are invited.

Each year the hospital welcomes a physician- and a surgeon-in-chief *pro tempore*, each assuming the duties of the respective chiefs for one week, living in residence with the house staff and conducting ward rounds, clinico-pathological conference and special lectures. This practice had its initiation in Boston in November 1913 with the visit of Dr. William S. Thayer of Baltimore as physician-in-chief *pro tempore*. The roster of distinguished visitors includes leaders in medicine and surgery throughout the world.

The medical house staff, directed by Dr. George W. Thorn, consists of 13 house officers, 12 assistant residents, 6 senior residents, and a chief resident physician. House officers have 24 weeks of general ward duty, 8 weeks of private







Above, house doctors discuss operation of artificial kidney. Below, morning staff conference of medical residents and chief.

Top left, Dr. Joseph Shipp, chief resident, and other house officers make medical rounds. Left, members of house staff make ward rounds with senior physician.



duty, 8 weeks of outpatient and emergency ward duty, 4 weeks of metabolic-renal service, and 4 weeks of rheumatology at the Robert Breck Brigham Hospital (named after Peter Bent's cousin). In addition there is a two week holiday and two week reading period.

Daily visit and teaching rounds are held on all ward services and special teaching rounds in biophysics and psychiatry are held weekly. The physician-in-chief and other senior physicians make regular rounds on the private service. The outpatient clinics include all of the regular medical specialties as well as special facilities for the care of chronic alcoholics, luetics, and the aged.

Surgical

The surgical house staff consists at the present time of 6 house officers, 12 junior assistant residents and 8 senior assistant residents; a resident in general surgery who is also the Arthur Tracy Cabot teaching fellow, a resident in urological surgery, a resident in neurosurgery, a resident in anesthesia and a resident in orthopedic surgery. Dr. Francis D. Moore is surgeon-in-chief.

The team system is used throughout the surgical service which, because of its vertical organization, provides a graded educational experience for its house staff members. There are teams in general surgery (three: ward, surgeon-in-chief, private), orthopedics, urology, neuro-surgery and otolaryngology, thoracic surgery, and anesthesia. Teams consist of junior and senior house staff members in appropriate number as well as affiliated visiting surgeons in each of the surgical specialities.

Training in gynecological and peripheral vascular surgery is provided in the general surgical rotation. An active outpatient and emergency ward provides the opportunity for the treatment of non-hospitalized patients.

Affiliations

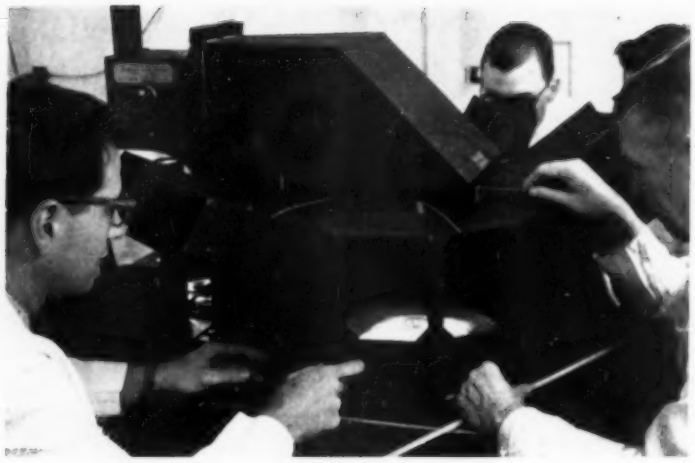
The surgical service maintains an affiliation with the West Roxbury VA Hospital, the Children's Medical Center, the Burbank Hospital in Fitchburg, and St. Mary's Hospital in London, England. The resident staff of the first two is selected in conjunction with Peter Bent Brigham Hospital.

The training program in surgery is flexible and tailored to meet the needs and desires of the individual. Most members of the house staff take training in experimental surgery and laboratory methods either in the surgical laboratories of the hospital or in one of the outside centers. Specialty training in anesthesia, urological, neurological, and orthopedic surgery also is offered, the latter two in conjunction with the Children's Medical Center.

In addition to the hospital conferences, members of the surgical service attend surgeon-in-chief rounds, history meetings, and pathological conferences. Emphasis is on careful diagnosis, pre- and postoperative care, as well as the technical aspects of operative surgery.

PETER BENT BRIGHAM HOSPITAL

INPATIENT		
No. of Patients Treated		6,600
Medical	3,160	
Surgical	3,440	
No. of Patient Days		83,071
No. of Admissions		6,385
Average Patient Stay		13 days
OUTPATIENT		
Total Visits		45,624
Medical	26,942	
Surgical	18,682	
EMERGENCY DEPT.		
Total Visits		11,637
Medical	3,764	
Surgical	7,873	
PATHOLOGY		
Autopsies Performed		379
% of Autopsies		80%
Total Surgicals		3,207
RADIOLOGY		
Total Patients Visits		24,491
X-ray Treatments		1,498
Films Taken		87,259



Pathology residents and chief study single specimen with the aid of Scopicon.

Radiology

The radiology house staff quota consists of 6 junior assistant residents, 4 senior assistant residents, one resident and one chief resident. The fully accredited program, conducted jointly with Dr. Edward B. D. Neuhauser's department at the Children's Medical Center, comprises training in all phases of diagnostic and therapeutic radiology, and is actively linked to clinical medicine.

Over and above the radiology training at Peter Bent, residents rotate through the hospital's Department of Pathology and through the radiology departments of the Children's Medical Center and the Massachusetts State Cancer Hospital at Pondville. Research affiliations with the other services of the hospital and the Harvard Medical School are maintained.

An x-ray conference is held weekly and all residents actively participate in the many other regularly-scheduled clinical and pathological conferences. Daily afternoon work conferences for the radiology house staff are conducted by its chief, Dr. James B. Dealy, Jr.

The diagnostic service has its modern technical apparatus, including image intensification equipment, in a recently completed pavilion. The therapy service anticipates, in the near

Films are discussed by staff physicians in PBBH x-ray rounds room.





Coffee cups have been emptied but the discussion goes on re an interesting case.

future, the addition of a cobalt 60 unit to its 250 deep therapy machine.

Last year 87,259 films were taken in doing 28,334 examinations on 24,491 patients. A total of 1498 x-ray treatments were given during the same period.

Dr. George W. Thorn, Physician-in-Chief, at CPC in Main Amphitheatre.



Pathology

Dr. Gustave J. Dammin is pathologist-in-chief. The pathology house staff consists of 7 residents in pathological anatomy and two residents in clinical pathology. Two senior residents, one supported as a clinical trainee of the National Institutes of Health, supervise the house staff activities. Residents at all levels of training participate in autopsy and surgical cases. There were approximately 380 autopsies (80% of deaths) and 3000 surgical specimens examined last year.

Research

Opportunities for full or part-time research activities are available in the Pathology Department of Peter Bent Harvard Medical School, and in other departments for work in such fields as immunology, biophysics, cardiac physiology and organ transplantation. This phase of the program has just received additional support from the National Heart Institute of the Public Health Service.

The hospital maintains a three year nursing school which graduates between 40 and 50 nurses annually. In addition approximately 12 dietetic interns are in service. There are active social service and physical therapy departments.

Maintenance is provided for the house staff in quarters above the administrative building. Both the Harvard Medical School library and small surgical and medical libraries on the respective services in the hospital are available.

Recreation

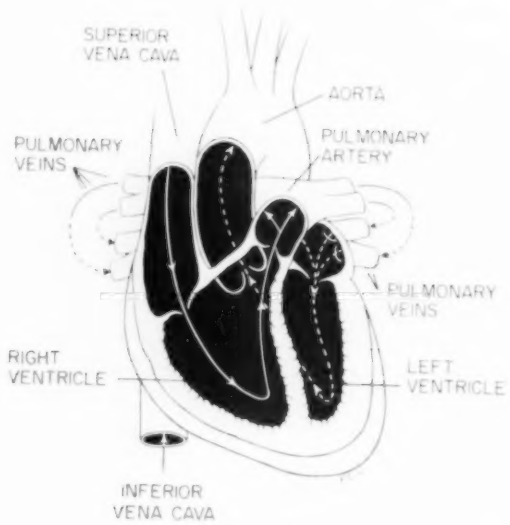
Beyond the medical activities, Boston provides ample opportunity for amusement and recreation. A wealth of museums and galleries are near at hand, and often members of the staff have theater parties to view pre-Broadway shows. Boston Symphony Orchestra concerts are an added attraction, and each spring, the Friends of Peter Bent Brigham Hospital sponsor a benefit "Brigham Night at the Pops."

In May of each year the medical house staff challenges its surgical counterpart to a softball game. Both squash and tennis courts are available at the hospital, and in connection with the latter an annual tennis cup is awarded to the winner of the Peter Bent Brigham-Massachusetts General Hospital tournament.

In addition, there is an annual Brigham house staff dance sponsored by the senior staff.

CLINI-CLIPPING

Circulation of the blood through the heart



Life without Frenzy

He used to fuss and fume when traffic slowed him down. Now he relaxes—his pace of living has been "calmed down"—since his doctor prescribed

Butiserpine

That's the tranquilizing-sedative-hypotensive effect BUTISERPINE has on tense, highstrung patients. Its *Butisol* component quickly induces a more reasonable, tranquil attitude. This gives the *reserpine* component a chance to build up to its maintenance tranquilizing effect.

Now you can prescribe Butiserpine also in its delightful Elixir form. Each tablet or teaspoonful of elixir contains:

BUTISOL SODIUM® 15 mg. (¼ gr.)
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Reserpine 0.1 mg.

Butiserpine

Tablets
Elixir
Prestabs® Butiserpine R-A (Repeat Action Tablets)



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INVESTING FOR THE SUCCESSFUL PHYSICIAN

Prepared especially for Medical Times by C. Norman Stabler, market analyst of the New York Herald Tribune.

Readers of this monthly article on finance and the whys and wherefores of the economic front who have stood by us stoutly the last couple of years, doubtless expect words of wisdom that will advise them how to remove the mortgage on the old homestead, buy a penny stock that bankers will compete later to purchase, and inside information on "how to buy 'em low and sell 'em high."

Would that we possessed such powers! To our credit let it be said we have had occasion to write kind words, from time to time, about the drug and pharmaceutical industry. These words, we repeat, just in case you want them on the record. This industry is well situated. It is a favorite of doctors and a favorite in Wall Street.

Why go further? Let those who want to bet on a cow pasture that may contain uranium, those who are impressed with the wealth of iron ore or oil reserves in Venezuela, and those who think South Africa is about to hit a rich strike of diamonds, have their way. If any one knew the answers to the market he would never worry about a doctor's bill and he could underwrite the hospitals of the nation.

It is not given to anyone to know these things. In our effort to please we seek to appraise the probabilities. We are now in mid-February, and we suspect that a major item of consideration to be tossed about in Washington will be how much our good Uncle Sam will spend. That will have a direct bearing on our welfare.

For instance, President Eisenhower has set his sights on a balanced budget. That is assuring to investors in bonds, or in any obligations that are stated in specific dollars. Of more immediate interest is the effect it will have on those who have invested in stocks, or other equity securities.

If the president intends to secure this balanced budget through a reduction in defense outlays, it will have a direct effect on companies that are concerned in any way with our defense program. This is something to be watched by investors in such issues.

Our guess is that, no matter how noble the president's effort, he is not going to get away with it. The trend is to full spending. His oppo-



sition is not confined to either the Republican or the Democratic party. Politics is in the situation, and brave indeed will be the few senators or congressmen who dare to vote in favor of restricting any defense proposals or any proposals, of half-way merit, that can be hawked as "benefits to mankind and ways to keep the wheels of industry turning and to fatten pay envelopes of the working man." These are popular political cries.

No matter how sincere are the efforts of President Eisenhower—and we are certain he is most sincere—the stage is set for as much inflationary spending in this year as there has been over the last few years. That is a trend. It is not peculiar to our country. We would not take too seriously the talks of reduced spending.

You realize everyone is talking about the government's new fiscal year? That starts next June 30. They work things a little differently than do you and I. The discussion is what is to happen to our government's Treasury between June 30 and the following one. You and I are currently wondering about how to appease Uncle Samuel two months from now, when our income tax returns, for the year 1958, will be due for balancing. That is past history to us; down in Washington they are debating our future.

Our guess is you shouldn't count on any tax cuts or reductions in federal government expenses. If this is a tip on what stocks are the best buys under such conditions, write this column and send us an advance proof. We wish we knew. It's like in breeding hogs or race horses. The best you can do, with your portfolio of investments or your stable of greyhounds or carrier pigeons, is to keep trying to improve the breed.

THE NATURAL GAS INDUSTRY

As an industry, natural gas is a youngster compared to its older brother, the petroleum industry. It has grown quite husky over the last few years and last December we found it has friends in the Supreme Court of the United States, which is a good place to have them.

The industry experienced a long series of adverse rulings and reverses in Congress, since 1954. Now the Supreme Court, in a decision in the so-called Memphis case, has over-ruled a court and thus, upheld the Federal Power Commission's policy of permitting interstate gas companies, requesting higher rates, to collect them under bond until the commission can investigate the merits of the case.

The original Memphis decision was rendered in November, 1957. It placed in jeopardy some $225,000,000 in rate increases which previously had been collected under bond. Had the decision stood, the pipeline companies could have collected higher rates under bond, only if the customers assented.

Kenneth E. Hill, a partner of Eastman Dillon, Union Securities & Co., recently issued an eight-page analysis of the industry and several of its units. It notes, among other things, two distinct advantages which the natural gas industry has over the more venerable petroleum industry.

One is that the average natural gas well brings 60 to 70 per cent of its gross income down to "cash income after taxes" at the bottom of the earnings statement. The other is that the natural gas industry isn't faced with the prospect of large-volume, relatively low-cost, imports from foreign countries. The firm projects natural gas imports at one million cubic feet in 1967, mainly from Canada, or only 6 per cent of estimated domestic production.

Summarizing the outlook, and its recommendations, the firm says: growth in domestic

consumption of natural gas, which could exceed 5 per cent per annum over the next decade, will outpace that of petroleum and other sources of energy; natural gas will continue to displace oil as well as coal in the overall energy market; gas discoveries are occurring



in large amounts relative to consumption, and both finding and operating costs are reasonable; and, despite continued regulation, we estimate that the average price of gas at the wellhead will increase from 11.3 cents per Mcf (thousand cubic feet) to about 15 cents over the next decade.

The growth in domestic consumption of natural gas over the post-war period has approximated 9.5 per cent a year, thus exceeding the 6 per cent annual gain in petroleum and the 3.3 per cent increment on the part of all energy sources, the firm points out. Thus it currently accounts for 24 per cent of the total consumption of energy fuels, as contrasted with only 14 per cent a decade ago.

When we speak of natural gas, figures in the mere millions and billions hardly count. We must talk in trillions. Thus, there was a gain in net marketing production from 4.1 trillion cubic feet in 1946 to 10.7 trillion in 1957. That's a lot of gas. This was accompanied by an increase in the average price at the wellhead from 5.3 cents to 11.3 cents per Mcf. Consequently revenues received by producers of natural gas have risen six-fold, from $200 million to $1,200 million.

The vast expansion of pipeline networks, especially since the war, has been a major factor in this greater demand and greater consumption. For instance Mr. Hill and his associates point out that this gas is available to consumers in 46 of our states. Only Maine and Vermont are on the other side. We recall there was an election some years ago when it was these two states that likewise remained independent of the others.

As for the Wall Street angle, the survey says that natural gas reserves may be purchased indirectly, at a discount from their appraised value, through the purchase of common stocks of natural gas producing companies. Among the major companies, Humble, Standard of Indiana, Pure, and Superior have large undedicated gas reserves and will be able to increase future gas revenues.

It expresses the view that within the group of intermediate companies Union Oil & Gas, United Carbon, Columbian Carbon, Western Natural Gas, Republic and Hugoton seem attractive, as they are aggressively exploring for additional gas reserves which can be dedicated at higher prices.

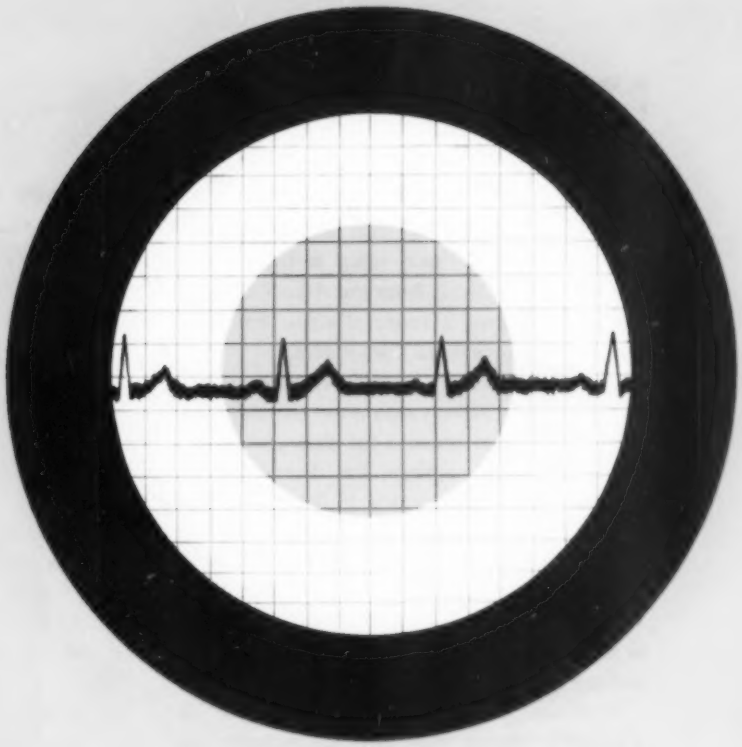
OGDEN FORSAKES ITS SHELL

Shares of the Ogden Corporation, listed on the American Stock Exchange, advanced quietly last year from a low of 8⅜ to a high of 20¾. A rise of such proportions deserves explanations, especially as six years ago Ogden was essentially a corporate shell, with virtually no assets. Now it is an industrial holding company that has acquired a number of operating companies that hold vital positions in their respective fields.

These units have a sales base of more than a half billion dollars a year and the parent's net worth exceeds $35,600,000.

Off hand that looks like lifting one's self by the bootstraps. How it was done and what the company now possesses were detailed recently

for easy
elimination
in cardiovascular
patients



TARGET ACTION specifically on the large bowel

DORBANE®

(1,8-dihydroxyanthraquinone)

selective peristaltic stimulant

▪ smooth, overnight action ▪ no griping ▪ well tolerated, non-habituating

Available in 75 mg. scored tablets and suspension.

WHERE STOOL SOFTENING IS ALSO INDICATED

DORBANTYL® FORTE

(Dorbane, 50 mg. + dioctyl sodium sulfosuccinate, 100 mg.)*

Double-strength capsules for maximum economy and convenience.

DORBANTYL®

(Dorbane, 25 mg. + dioctyl sodium sulfosuccinate, 50 mg.)*

For lower dosage and in children.

Available in capsules and suspension.

***In proportions proved optimal by clinical trial in over 550 cases.**

(Marks, M. M.: Clin. Med. 4:151, 1957.)

SchenLabs

SCHENLABS PHARMACEUTICALS, INC., NEW YORK 1, N.Y.

Manufacturers of NEUTRAPEN® for penicillin reactions.

®TRADEMARKS REG. U. S. PAT. OFF. DORBANTYL FORMULA PATENTED. 55459

in an 8-page analysis prepared by Miss Muriel F. Siebert of Shields & Co.'s research department.

Originally this company was a public utility holding company. It had to dispose of its utility investments to comply with the Investment Company Act of 1940. Allen & Co. bought control of it, in 1952, from the Atlas Corporation. Then started a series of steps that have resulted in a revitalized corporation.

The present shares have never paid a dividend and Miss Siebert says none are indicated for the near term because the management intends to retain earnings for diversification, expansion and the retirement of debt.

"Periodic spin-offs," she adds, however, "in one form or another, may be more valuable to stockholders than fully taxable cash dividends. With a broader operating base the company is in a favorable position to continue its policy of making further acquisitions."

Common stock outstanding consists of 4,422,071 shares but this is exclusive of 389,225 shares reserved for outstanding options and 270,271 set aside for the conversion of debentures, a $5,000,000 five per cent issue. Other debt consists of $30,236,157 non-convertible notes.

Acquisitions generally have been effected through the issuance of debt, combined with the private sale, or issuance, of a limited amount of stock. Since the debt is gradually being retired from earnings, Miss Siebert states that "the subsidiaries are in part paying for themselves."

This she illustrates with the case of Luria Bros. This subsidiary is the world's largest factor in the scrap iron industry, primarily operating as brokers but also operating "scrap yards" throughout the country. Its purchase price was $20,000,000, consisting of $9,000,000 cash, $10,000,000 in 1970 debentures issued to the sellers, and two notes of $500,000 each. Ogden sold 410,000 shares privately at $13, raising $5,330,000, which was used as part of the cash payment, and the notes, a debt of Luria, should be retired out of earnings. Ogden acquired Luria in October, 1955.

Other acquisitions include Eimco Co., a manufacturer of mining, loading, excavating

GUIDE FOR INVESTORS

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

1. Think before buying, guard against all high pressure sales.

2. Beware of promises of quick spectacular price rises.

3. Be sure you understand the risk of loss as well as prospect of gain.

4. Get the facts—do not buy on tips or rumors.

5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.

6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.

7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.

in Egypt,
it's called 'Gippy-tummy'



diarrhea by any name

GASTROENTERITIS
BACILLARY DYSENTERY
PARADYSENTERY
SALMONELLOSIS
DIARRHEA OF THE NEWBORN
NONSPECIFIC DIARRHEA
"SUMMER COMPLAINT"

usually responds rapidly to

Cremomycin

for *rapid* relief of all diarrheas—regardless of etiology

*fruit-flavored, readily accepted by patients of all ages**

Neomycin—rapidly bactericidal against most intestinal pathogens, but is relatively ineffective against such diarrhea-causing organisms as Shigella.

Sulfasuxidine—an ideal adjunct to neomycin because it is highly effective against Shigella and certain other neomycin-resistant organisms.

Kaolin and Pectin—coat and soothe the inflamed mucosa, absorb toxins, help reduce intestinal hypermotility, help provide rapid symptomatic relief.

*For infants, CREMOMYCIN may be administered in the regular bottle feeding, since its fine particles easily pass through a standard nursing nipple.

MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILA. 1, PA.

and filtration equipment; Teleregister Corporation, the leading manufacturer of specialized electronic data processing reservation systems and the only manufacturer of electric stock boards used in brokerage offices; Syntex Corporation, a manufacturer of steroid hormone intermediates; and Commercial Filters, a leading producer of replacable industrial filters used by petroleum, industrial and chemical companies.

"The future potentials for Ogden—even exclusive of Teleregister—are favorable," the Shields & Co. analysis says, "including a much higher level of earnings and long term growth. In exceptionally good steel years, Luria's earnings will rebound; earnings generated by two subsidiaries alone—Luria Bros. and Eimco—should be substantially higher than current earnings, possibly reaching $1.75 per Ogden share. Thus Ogden's current market price does not reflect both: 1: the substantial basic earning power of the heavy industrial companies; and. 2: the outstanding potentials of Teleregister."

The Shield's survey lays particular stress on Teleregister, with which it is most impressed. This unit was acquired by Odgen from Western Union in 1953. At that time almost all of its commercial activities revolved around the manufacturing and leasing of 304 electric stock quotation boards. Now the company has 514 such boards, operating in 72 cities. Another application, currently is service in Toronto, is an electric board that gives subscribers a continuous display of bid and asked prices of any fifty securities of their choice.

Teleregister's activities in the reservation field serve airlines, railroads and hotels. The hub of the system is a "memory drum" which stores and keeps track of the availability of vacant space. The agent can determine, within a few seconds, the information requested by the customer.

The principles embodied in reservation systems can be adapted for industrial uses, such as inventory control. Hood Rubber Co., a division of Goodrich, has such a system in operation, covering 30,000 items.

Using the same principles Teleregister is building automatic savings account systems for the Howard Savings Institution in Newark, the Union Dime Savings Bank in New York and the Society for Savings Banks in Hartford. They are transistorized systems which should be completed by 1960 and are designed to reduce accounting costs and produce substantial time savings for depositors as well as the banks.

"The company is just starting to tap its potential," the Shields & Co. analysis states.

A GOOD YEAR FOR CONSTRUCTION

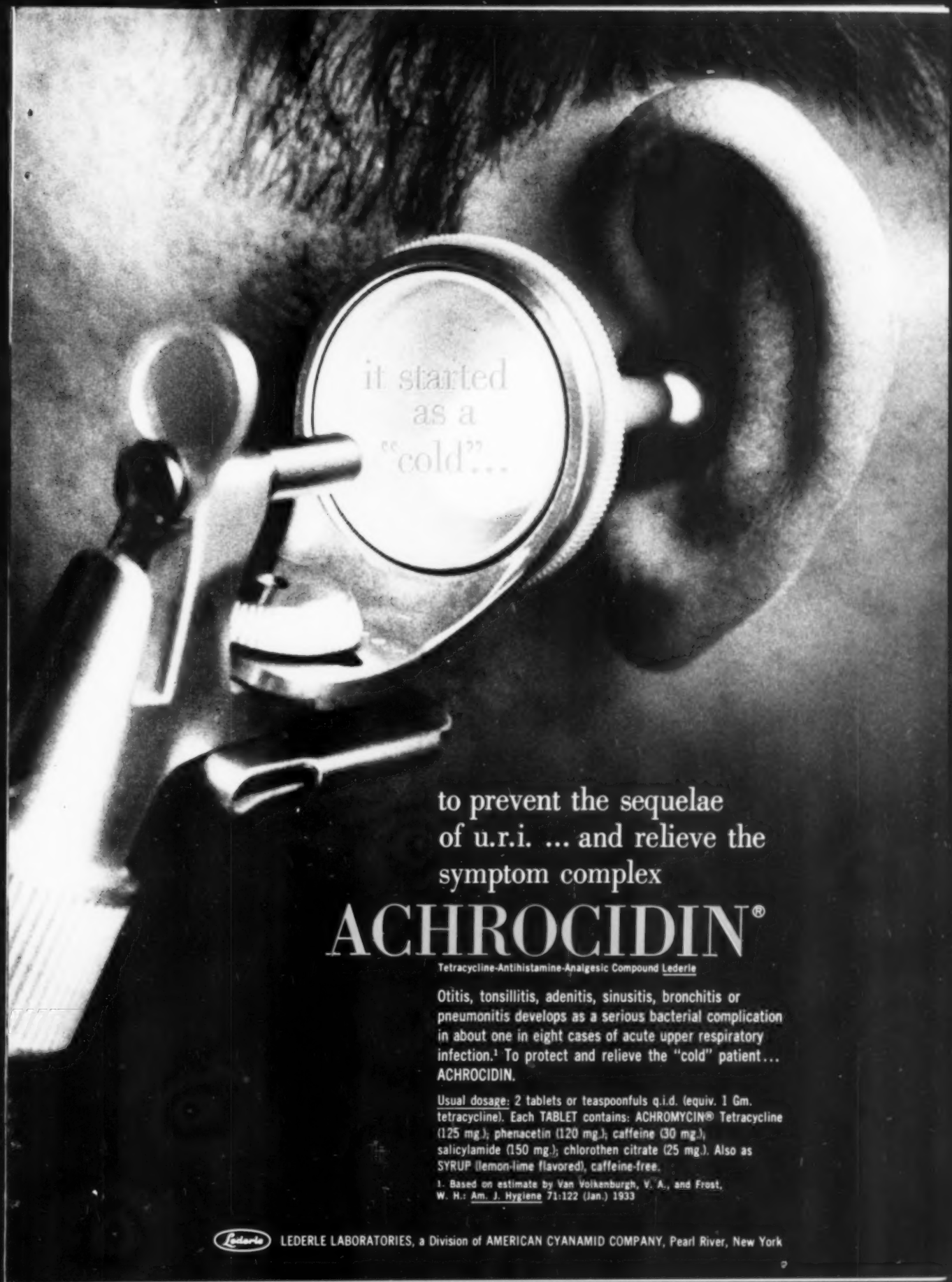


When the final figures are in for the volume of construction that took place in this country last year, the assumption is it will show a new record high for the thirteenth consecutive year. Moreover the expectation is we will make it fourteen in a row this year.

Construction is a major item in the economy. The firm of David L. Babson & Co. points out that new construction is the equivalent of almost one-sixth of total gross national product, GNP as the economists call it. GNP is the combined value of all goods and services produced.

New construction is the largest of the three components of private domestic investment, the other two being new plant and equipment expenditures and changes in business inventories.

The firm looks for spending for new construction to increase 7 per cent this year over the 1958 total which, with repair and maintenance work added, ran to something between $66 and $68 billion.



to prevent the sequelae of u.r.i. ... and relieve the symptom complex

ACHROCIDIN®

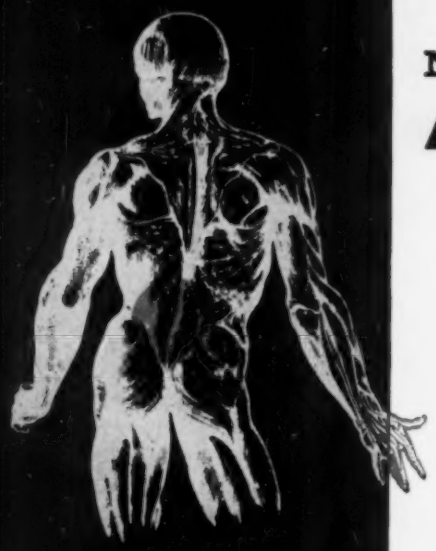
Tetracycline-Antihistamine-Analgesic Compound Lederle

Otitis, tonsillitis, adenitis, sinusitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.[1] To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



"EXCELLENT,"[3]
"MARKED,"[1]
"PRONOUNCED,"[2]
"SIGNIFICANT"[4] or
"GRATIFYING"[5]
results in 80.3% of cases of acute skeletal muscle spasm, and "moderate" results in 14.1%—or an over-all beneficial result in 94.4% of cases. Relatively free of adverse side effects.[1,2,4,5]

Now—in acute skeletal muscle spasm—

A SPEEDIER RETURN TO

1 **In 33 adults with skeletal muscle spasm secondary to acute trauma:**

"All patients of this group received some degree of relief from the drug, and it is interesting that there was a significant degree of reduction in skeletal muscle spasm in 96% of these patients."[1]

2 **In 39 patients with herniated lumbar and cervical discs, who received methocarbamol for relief of pain and muscle spasm:**

"The response was judged to be pronounced in 25" . . . "moderate" in 13. "In most instances the attacks subsided quickly, so that the patients could continue to work or go back to work sooner than expected."[2]

3 **In 17 patients with acute muscle spasm:**

"An excellent result, after methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."[3]

4 **In 30 patients with pyramidal tract and acute myalgic disorders:**

"Use of this drug (Robaxin) resulted in significant improvement in 27 (90%), questionable improvement in 2, and none in 1 . . . No side-effects developed after 72 hours on the medication."[4]

5 **In 60 industrial workers with uncomplicated skeletal muscle spasm:**

"Results were gratifying in that 55 workers, or 92%, could return to full or light duty. No side effects were encountered."[5]

Supply: ROBAXIN Tablets, 0.5 Gm., in bottles of 50.

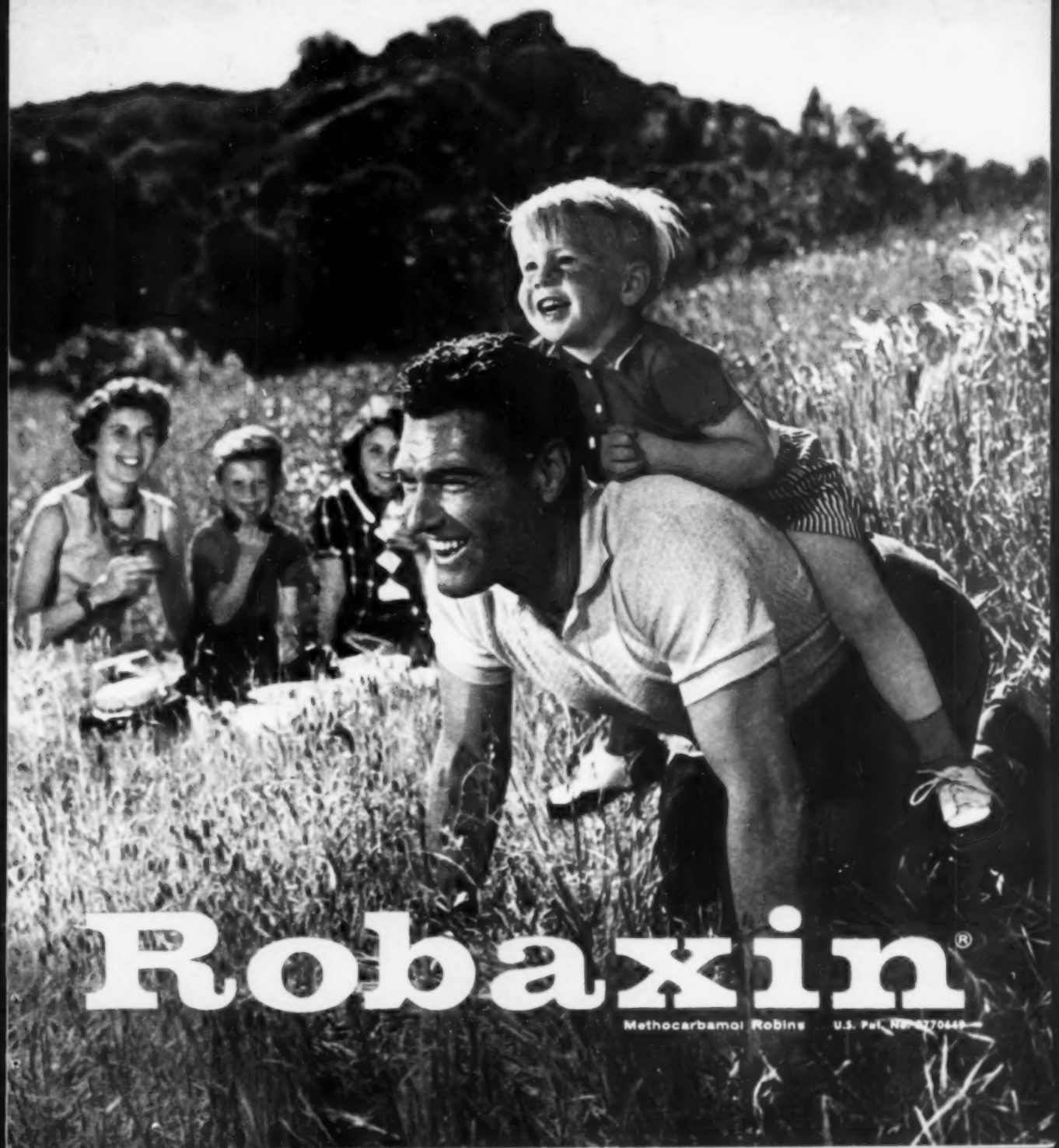
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A. H. ROBINS COMPANY, INC.
Richmond 20, Virginia
Ethical Pharmaceuticals of Merit since 1878

Robins

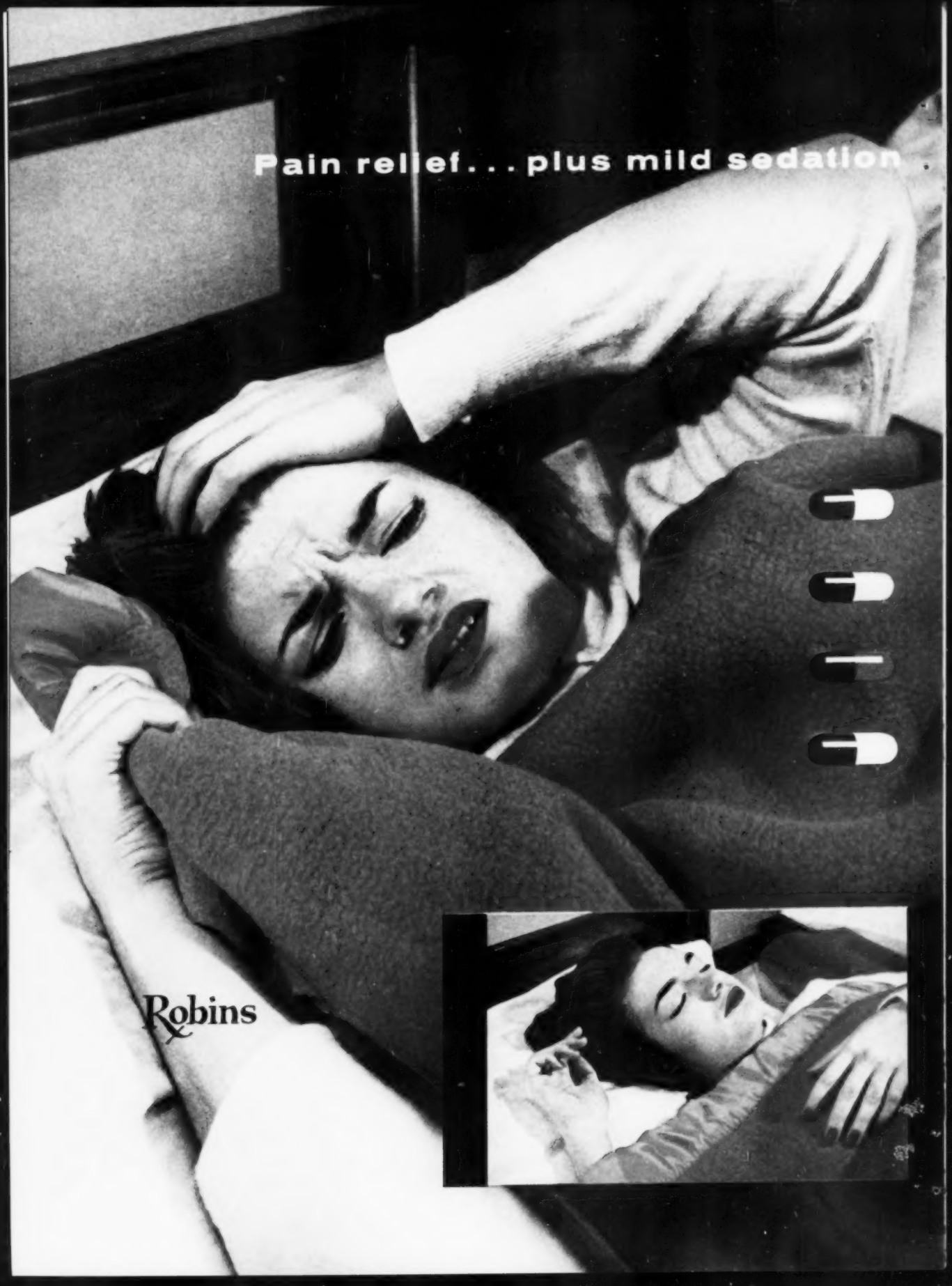
"NORMAL ACTIVITY"

Beneficial results in 94.4% of patients in 5 clinical studies[1,2,3,4,5]



Robaxin®

Methocarbamol Robins U.S. Pat. No. 2770648


Pain relief . . . plus mild sedation .
Robins

. . . to assure

maximum safe analgesia

PHENAPHEN
Basic non-narcotic formula

Acetylsalicylic acid (2½ gr.)	162 mg.
Phenacetin (3 gr.)	194 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

PHENAPHEN No. 2
Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.).

PHENAPHEN No. 3
Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.).

PHENAPHEN No. 4
Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.).

Pain relief—tailored to patient need—even (in many cases) eliminating the need for morphine, "the drug of last resort,"[2] through —

- **Four convenient PHENAPHEN potencies**
  — for individual selection, to match the intensity of pain
- **Flexibility of dosage**
  — for easy adjustment (1 or 2 capsules, as needed) to cope with variations in the level of pain

ADVANTAGEOUS COMBINATION

"Combinations of codeine with mild analgesic agents are commonly used to relieve pain refractory to the mild analgesic agent alone. Such combinations offer the advantage that pain relief may be afforded by doses of codeine that are ineffective when given alone."[1]

DOSAGE — One or 2 capsules as required.
SUPPLY — Bottles of 100 and 500 capsules.

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PHENAPHEN®

PHENAPHEN® WITH CODEINE

Robins



VALUE OF NEW CONSTRUCTION IN THE U. S. (In Millions of Dollars)

TYPE OF CONSTRUCTION	1957	Est. '48	Proj. '59	% '57-8	Change '58-9
Total New Construction	$48,115	$48,800	$52,000	+ 1%	+ 7%
Total Private	33,988	33,800	35,200	— 1	+ 4
Residential buildings (non-farm)	17,019	17,700	19,500	+ 4	+10
Non-Residential	9,556	8,730	8,500	— 9	— 3
Industrial	3,557	2,460	2,080	—31	—15
Commercial (Stores, Warehouses, Offices, Garages, etc.)	3,564	3,550	3,630	NC	+ 2
Other Non-Residential (Schools, Churches, Hospitals, etc.)	2,435	2,720	2,790	+12	+ 3
Public Utility	5,624	5,575	5,400	— 1	— 3
Farm and Other Private	1,789	1,795	1,800	NC	NC
Total Public	14,127	15,000	17,100	+ 6	+14
Non-Residential (Educational, Churches, Hospitals, etc.)	4,503	4,625	5,075	+ 3	+10
Military Facilities	1,322	1,210	1,400	— 8	—16
Highways	4,971	5,359	6,000	+ 8	+12
Public Works (Water, Sewer, Conservation, etc.)	2,708	2,840	3,290	+ 5	+16
Other Public Including Residential	623	975	1,335	+57	+37

Projections on this important index of business have been issued by the Department of Labor and the Department of Commerce. Broken down into categories, the figures are as shown in the table.

Note that after a 6 per cent gain in 1958, public expenditures are expected to provide a major part of the increase in new construction outlays in 1959, rising by $2.1 billion or 14 per cent. Privately-financed work, which declined 1 per cent in 1958, is expected to rise $1.4 billion or 4 per cent. F. W. Dodge Corp. analysts expect that, as the year advances, private jobs will tend to rise faster than public work, thus accounting for an increasing percentage of the overall rise in contract awards.

RAISES FEW IN UPPER ECHELON

If your total compensation was no more last year than in the previous year, be of good cheer. You fared no worse than most executives of American and Canadian Corporations.

So we gather from an analysis of upper echelon pay envelopes conducted by the American Management Association. There was a business recession in the first half of 1958, as we recall, and that had an effect. This group, in previous non-recession years, tended to improve its total compensation by 5 to 6 per cent.

The association studied confidential reports from more than 3,500 companies. Data covered salaries, bonus payments, and contributions to retirement plans, for up to twenty top positions in each company.

Higher salaries than in the previous year were paid to 47 per cent of the positions included in the study, lower salaries to 11 per cent, and the same salaries to 47 per cent. Lower bonus payments affected many executives, who thought they were worth more.

The survey covered various supplementary forms of compensation, such as stock options, stock purchase plans, stock bonus plans, and deferred payments.

If you were to examine these patients



could you detect the uveitis patient on Medrol®?

Probably not. Not without a history.

First, because he's more than likely symptom-free.

Second, because he shows none of the disturbing changes in appearance, behavior or metabolism sometimes associated with corticotherapy.

Even your practiced clinical eye would find it difficult to spot someone else's Medrol patient.

But in your own patients, you could see the advantages of Medrol right away. Why not try it?



Upjohn The Upjohn Company, Kalamazoo, Michigan

*Trademark, reg. U. S. Pat. Off.

CURRENT READING ON FINANCIAL SUBJECTS

Wall Street firms are glad to supply those who are interested with views on various industries and companies. You can do us a favor if you mention Medical Times as the source of your information. A partial list of such literature that has come to hand recently, follows.

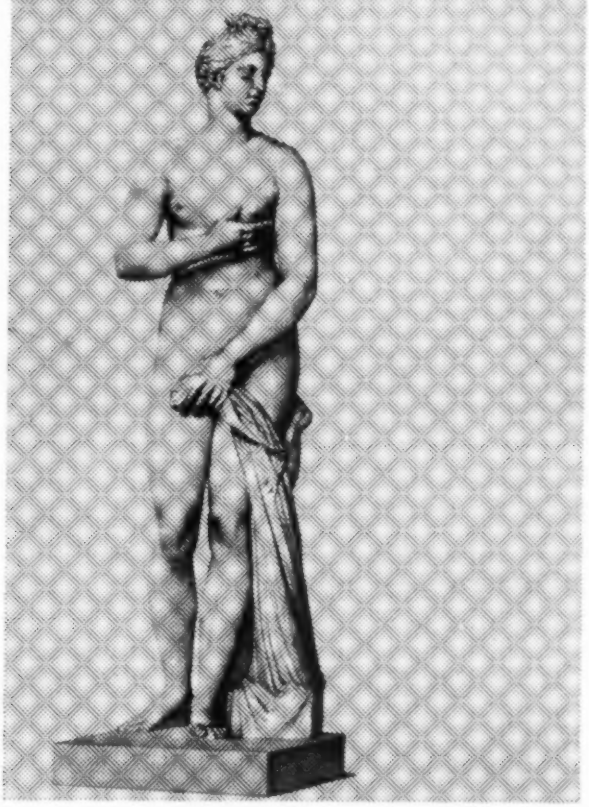
SUBJECT	FIRM	FIRM'S NEW YORK ADDRESS
Timken Roller Bearing Co.	Hornblower & Weeks	40 Wall St.
Newport News Shipbuilding Co.	Walston & Co.	74 Wall St.
Rohr Aircraft Corporation	Walston & Co.	74 Wall St.
United Gas Co.	Carl M. Loeb, Rhoades & Co.	42 Wall St.
Transamerica Corporation	Carl M. Loeb, Rhoades & Co.	42 Wall St.
Anglo-Lautaro Nitrate Corp.	Gude, Winmill & Co.	One Wall St.
Amphenol Electronics Corp.	Gude, Winmill & Co.	One Wall St.
Carpenter Steel Co.	Shearson, Hammill & Co.	14 Wall St.
Sperry Rand Corporation	Shearson, Hammill & Co.	14 Wall St.
Stocks vs. Bonds	Francis I. duPont & Co.	One Wall St.
Dana Corporation	Francis I. duPont & Co.	One Wall St.
Allis Chalmers Mfg. Co.	Green, Ellis & Anderson	61 Broadway
Ionics, Inc.	Draper, Sears & Co.	50 Congress St. Boston, Mass.
Glen Alden Corporation	Herzfeld & Stern	30 Broad St.
Olin Mathieson Chemical Corp.	Blair & Co.	20 Broad St.
American Airlines	Halle & Stieglitz	52 Wall St.
Reichhold Chemicals, Inc.	Eastman Dillon, Union Securities	15 Broad St.
West Penn Electric Co.	Eastman Dillon, Union Securities	15 Broad St.
Rheem Manufacturing Co.	Josephthal & Co.	120 Broadway
General Cable Corporation	Josephthal & Co.	120 Broadway
Motorola, Inc.	Bache & Co.	36 Wall St.
St. Louis-San Francisco Rwy.	Oscar Gruss & Son	150 Broadway
General Instrument Corp.	Alkow & Co.	40 Exchange Pl.
Minerals & Chemicals Corp.	Hemphill, Noyes & Co.	15 Broad St.
Radio Corp. of America	Arthur Wiessenberger & Co.	61 Broadway
American Machine & Foundry	A. T. Brod & Co.	120 Broadway
Arizona Public Service Co.	Reynolds & Co.	120 Broadway
Franklin Stores Corp.	Hardy & Co.	30 Broad St.
Ogden Corporation	Shields & Co.	44 Wall St.
Robertshaw-Fulton Controls Co.	Thomson & McKinnon	11 Wall St.
United States Steel Corp.	Thomson & McKinnon	11 Wall St.
Montgomery Ward & Co.	Thomson & McKinnon	11 Wall St.
General Precision Equipment	Ira Haupt & Co.	111 Broadway
Koppers Co.	Ira Haupt & Co.	111 Broadway
F. W. Woolworth Co.	Ira Haupt & Co.	111 Broadway
Canadian Oils and Mines	Hayden, Stone & Co.	25 Broad St.
Southern Pacific System	Hayden, Stone & Co.	25 Broad St.
Northern States Power Co.	Hayden, Stone & Co.	25 Broad St.
Celanese Corp. of Amer.	Hayden, Stone & Co.	25 Broad St.
U. S. Borax & Chemical	Harris, Upham & Co.	120 Broadway
Southwestern Public Service Co.	Paine, Webber, Jackson & Curtis	25 Broad St.
Metals & Thermit Corp.	Filor, Bullard & Smyth	26 Broadway
Blaw-Knox Co.	Fahnestock & Co.	65 Broadway

EFFECTIVE
IN A WIDER RANGE
OF SKIN DISORDERS

STEROSAN®
Hydrocortisone

(chlorquinaldol GEIGY with hydrocortisone)

CREAM AND OINTMENT



The highly effective antibacterial, antifungal STEROSAN combined with anti-inflammatory, antipruritic hydrocortisone provides rapid healing in a *wider* range of infective and allergic skin disorders. STEROSAN-Hydrocortisone is superior to either drug used alone and is effective where many antibiotic-hydrocortisone preparations fail.[1] Virtually non-irritating and non-sensitizing, STEROSAN-Hydrocortisone has the added advantage of being odorless, non-greasy, non-staining, and scarcely perceptible on the skin.

1. Pace, B. F.: M. Rec. & Ann. *51*:370, 1957.

STEROSAN®—Hydrocortisone (3% chlorquinaldol GEIGY with 1% hydrocortisone) Cream and Ointment. Tubes of 5 Gm. and 20 Gm. Prescription only.

GEIGY

ARDSLEY, NEW YORK

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FIBREBOARD PAPER PRODUCTS



The stock of Fibreboard Paper Products sold last year as low as 20½ but it closed the year well up in the fifties. It is a quiet issue, rarely getting much prominence on the tape. It has become popular in a number of investment firms however and recently has been the subject of several analyses.

There is nothing unusual about a Wall Street firm issuing a study on a corporation; it is unusual when many of them do it all at one and the same time. A difference of opinion is what we have come to expect from these men of the slide rule and the balance sheet. One will say, "I like U. S. Steel" and his friend will reply, "I prefer Bethlehem." Or possibly they get into a discussion on the relative investment merits of American Can and Continental Can, of Eastman Kodak and Bell & Howell or Polaroid, General Electric and Westinghouse, and so on down the list.

If the number of Wall Street analytical studies is a criterion, then we state without fear of denial, that Fibreboard Paper Products has carried the financial community by storm. There appears to be a rush among members of the analytical fraternity to say nice things about it.

As presently constituted the company is a relative youngster, for while its forebears go back a number of years, the company, as we know it today, may be said to have a birthday of January, 1956, as the result of a major



Bring comfort to her cold...

DUADACIN™

(pronounced DUAD'-A-CIN)

DUAL ANTIHISTAMINE—chlorpheniramine and pyrilamine

DUAL NASAL DECONGESTION—phenylephrine and prolonged antihistamine effect.

DUAL ANALGESICS—salicylamide and acetophenetidin

DUAL ANTI-DEPRESSANT—caffeine and phenylephrine.

DOSE: One capsule three or four times daily

Bottles of 20 and 100

LLOYD BROTHERS, INC. • CINCINNATI 3, OHIO

Not available to the wives of Lorenzo il Magnifico de Medici despite the wealth of his family & the city of Florence which he ruled



Now available at low cost New

MOL-IRON® PRENATAL

NEW ECONOMY: less than ½ the usual cost. NEW CONVENIENCE: only 1 tablet a day. Especially "special" because of MOL-IRON, the unique molybdenized ferrous iron complex—for over 10 years unexcelled in tolerance and effectiveness, particularly in pregnant women!

Bottles of 30 (month's supply)/Bottles of 90 (trimester's supply)

Just one Tablet a day provides:

Vitamin A	6000 U.S.P.U.
Vitamin D	600 U.S.P.U.
Vitamin K	2 mg.
Vitamin E	1 Int. U.
Vitamin C (Ascorbic Acid)	100 mg.
Thiamine	5 mg.
Vitamin B_{12}	2 mcg.
Folic Acid	0.25 mg.
Riboflavin	5 mg.
Pyridoxine	2 mg.
Panthenol	5 mg.
Nicotinamide	30 mg.
Mol-Iron:	
Ferrous Sulfate	75 mg.
Molybdenum Oxide	1.1 mg.
Calcium	150 mg.
Cobalt	0.1 mg.
Copper	1 mg.
Iodine	0.2 mg.
Magnesium	6 mg.
Manganese	1 mg.
Potassium	5 mg.
Zinc	1.5 mg.

White's WHITE LABORATORIES, INC., Kenilworth, N. J.

ACCUMULATING EVIDENCE shows safety

CLINICAL STUDY OF CADMIUM SULFIDE SHAMPOO

Canad. M. A. J. 79:917 (Dec. 1) 1958

"In treatment of seborrhoea of the scalp with cadmium sulfide 1% (Capsebon), a good result was obtained in 71% of the 127 cases, a fair result . . . in 15%, and no result in 14%. The preparation is an excellent shampoo. Its use does not bring about 'rebound' oiliness. No toxic side effects were seen."

J. H. HARVEY, M.D., and L. P. EREAUX, M.D.

PRELIMINARY AND SHORT REPORT

CADMIUM SULFIDE SHAMPOO IN SEBORRHEA CAPITIS

J. Invest. Dermat. 29:159 (Sept.) 1957

"Of eighty-four patients treated for seborrheic problems in the scalp with . . . cadmium sulfide shampoo . . . seventy-nine [94%] obtained good to excellent results."

W. L. KIRBY, M.D.

New Beneficial Agents in the Treatment of Acne Vulgaris and Seborrheic Dermatitis

Postgrad. Med. 24:439 (Oct.) 1958

" . . . this preparation does appear to be one of the better antiseborrheic agents. The effectiveness and cosmetic acceptability of this preparation would appear to warrant its further use."

D. G. STOUGH, M.D.; ROBERT LEWIS, M.D.; B. L. FARMER, M.D.; L. S. OSMENT, M.D., and R. O. NOOJIN, M.D.

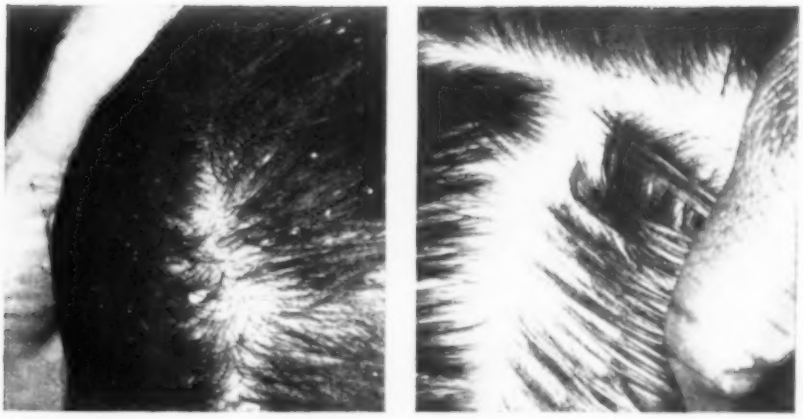
Cadmium Shampoo Treatment Of Seborrheic Dermatitis

Texas J. Med. 53:640 (Aug.) 1957

" . . . an extremely useful agent in control of chronic or recurrent seborrhea of the scalp . . . an important contribution . . . "

J. FRED MULLINS, M.D., and JAMES R. BARNETT, M.D.

and effectiveness of this therapeutic shampoo



BEFORE AFTER

THESE STATEMENTS REFLECT THE
GROWING RECOGNITION OF CAPSEBON'S

• effectiveness • safety • cosmetic acceptability

Capsebon is easy to apply—easy as an ordinary shampoo, and just as quick.

Available in 4-oz. bottle, on prescription only.

Additional references available from Professional Service Department on request.

Capsebon™

1% cadmium sulfide suspension

PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC.
INDIANAPOLIS 6, INDIANA

acquisition. Its field is that of paperboard and building products.

The first time we can recall hearing the company's name was a year or so ago from our friend Harry A. Kuffler, of David J. Greene & Co. With the enthusiasm that is normally associated with the stock broker who is convinced he has located the key to the pot of gold at rainbow's end, he trailed us all over town importuning us to do ourselves a favor by buying a sockful of it. With the contrariness that is normally associated with the newspaperman, who has heard such things before, we didn't.

Now the stock has the distinction of having a host of friends in the best circles in Wall Street, and investors who possessed socks that weren't full of holes, have been building paper profits from Fibreboard Paper Products.

In the last few days we have received thoughtful and readable analyses from such top drawer firms as Eastman Dillon, Union Securities & Co., written by partner S. Logan "Bud" Stirling; Rodney G. Fiske, of Baker, Weeks & Co.; William Kurtz, of Paine, Webber, Jackson & Curtis; George H. Dunning, of Reynolds & Co.; and J. Paul Lynch, of Emanuel, Deetjen & Co. It is quite possible some of their fraternity brothers in other shops have written on the same subject, but the above list is all we have at hand as of the last mail.

You may recall that once upon a time the company was known as Pabco Products, an outgrowth of the Paraffine Companies, Inc. Then, in 1956, it acquired full control of former Fibreboard Products, Inc., which had been 47 per cent owned by Crown Zellerbach Corporation.

The Wall Street men look for the company's 1959 earnings to work out at $3.50 to $4 a share and Mr. Kurtz asserts he is conservative with his estimate of $6.50 a share in three year's time.

Most paper stocks sell at better than twenty times their per share earnings, some of the old line ones considerably more. So, argue the analysts, even though Fibreboard has already done well by its followers it is selling at a reasonable rate, comparatively speaking.

Mr. Stirling draws attention to two recent developments which are sufficiently encouraging to convince him the stock has a long term potential of merit. The first is its development of a leakproof fibreboard package, "Fibrematic," which company officials consider is the lowest priced package in the so-called "liquid tight" category. The other is substantial new gypsum reserves in the company's Nevada property, with indicated reserves of 750,000,000 tons, which will benefit its building supply division.

Mr. Fiske, in an eleven-page discussion, notes the company's strong financial position and gives a description of its various operating divisions. He notes that the management pursues an ultraconservative dividend policy but that last year and this year it supplemented cash dividends with small stock dividends. He believes it is unlikely the company will have any need for public financing in the foreseeable future, bearing a major change in its corporate plans.

Mr. Dunning, injecting future earnings, figures on an improvement in sales this year and also "an additional increase in earnings reflecting not only higher operating rates but improved efficiency."



U-Drive-It

Parking regulations in metropolitan centers during days of the week when you don't need a car, high insurance rates, and various other complications that go with owning your own automobile, have brought a boom in the last few years to companies that own a fleet and rent cars to customers.

The field has become overcrowded. There's

you
can prescribe
for
more patients

unsurpassed therapy...

with
great security...

Aristocort®

Triamcinolone LEDERLE



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LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N.Y.

you
can prescribe
for more patients
with
rheumatoid arthritis...

unsurpassed
therapy...

with
great security...



Aristocort

Since its introduction a year ago, ARISTOCORT has been used in the successful treatment of thousands of patients with rheumatoid arthritis. The periods of treatment have been substantial: many patients have been continuously on ARISTOCORT for a year and longer.

A great number of the patients were *severe* arthritics, transferred from earlier corticosteroids to ARISTOCORT either because of failure to achieve adequate symptomatic improvement, or because of the development of serious hormonal reactions.[1-3] Still others were placed successfully on ARISTOCORT as their first corticosteroid therapy because various conditions, such as healed ulcer, edema, hypertension, etc., did not appear to warrant administration of earlier corticosteroids.

In several patients, peptic and duodenal ulcers which had developed on earlier corticosteroid therapy disappeared after the patients were transferred to ARISTOCORT.[1-3]

ARISTOCORT effectively controlled inflammatory and rheumatic symptoms on dosages averaging almost ⅓ less than prednisone or prednisolone.[1,4,6,7] And ARISTOCORT provided *greater security* in therapy because there was *freedom from sodium and water retention, absence of potassium depletion, psychic equilibrium was rarely disturbed, there was only a low incidence of peptic ulcer, and a low incidence of osteoporosis with compression fracture.*[1,2,5]

According to Hartung[3] ARISTOCORT is "the safest effective corticosteroid we have used."

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white).

Bibliography:

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Lederle

you
can prescribe
for more patients
with
respiratory allergies...
unsurpassed
therapy...
with
great security...



Aristocort

Clinical studies in hundreds of patients with bronchial asthma and other respiratory allergies treated with ARISTOCORT have proved its substantial advantages over other corticosteroids. Good to excellent results have been obtained in the great majority of cases on dosages of ARISTOCORT averaging ½ to ⅔ less than prednisone or prednisolone. In addition, ARISTOCORT had *fewer* and *less severe* side effects than earlier corticosteroids: there was no sodium and water retention, no potassium loss, psychic equilibrium was rarely disturbed, there was a low incidence of peptic ulcer and a low incidence of osteoporosis with compression fracture.[1-3]

These studies indicate the extension of corticosteroid therapy with ARISTOCORT to a wider range of patients who either developed severe hormonal reactions on earlier steroids, or who were previously deprived of corticosteroid therapy because of edema, a history of peptic ulcer and other disorders. Another highly important advantage of ARISTOCORT over other corticosteroids is its failure to cause an increase in blood pressure (an actual *decrease* in blood pressure in many patients with bronchial asthma when transferred to ARISTOCORT has also been reported[1,2]). Since hypertension is so often associated with bronchial asthma, particularly in older patients, ARISTOCORT would appear to be a logical choice of therapy in such cases.

Sherwood and Cooke[1,2] reported an effective range of 2 to 6 mg. daily of ARISTOCORT in a small number of cases of allergic rhinitis, which controlled all signs and symptoms.

Friedlaender and Friedlaender[7] found that ARISTOCORT dosage for maintenance in asthma averaged between 50 and 60 per cent of that of prednisone or prednisolone. "Seven out of 40 patients in the asthma group were better controlled on these smaller maintenance doses of triamcinolone than on prednisone or prednisolone. The results in the other asthmatics were at least as good as on higher doses of the previously used steroids." Feinberg, *et al*[8] found ARISTOCORT "a potent anti-allergic hormone, producing therapeutic effects with about one-half the dosage required for prednisone."

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white).

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Lederle

you
can prescribe
for more patients
with
inflammatory and allergic dermatoses...
unsurpassed
therapy...
with
great security...



Aristocort

Several hundred patients with inflammatory and allergic dermatoses (including psoriasis, atopic dermatitis, exfoliative dermatitis, pemphigus, dermatitis herpetiformis, eczematoid dermatitis, contact dermatitis and angioneurotic edema) have been treated with ARISTOCORT for substantial periods up to one year. Good to excellent results have been achieved with dosages of ARISTOCORT averaging ⅓ less than those of earlier corticosteroids, with a lower incidence and a decreased severity of hormonal side reactions.

Highly successful results were obtained by Hollander and his group[1] and Shelley and associates[2] in the treatment of psoriasis with ARISTOCORT. The former investigators found that when ARISTOCORT was temporarily replaced by prednisolone in 9 patients, there was prompt recurrence of psoriasis, which again disappeared on resumption of ARISTOCORT. Side effects were "of mild degree and detracted little from the delight of most of the patients in their improved skin condition."

Shelley and associates found it "gratifying to have a steroid compound which did not lead to fluid retention and edema." Four mg. of ARISTOCORT were equivalent in efficacy to 10 mg. of prednisolone in treating dermatides.

Rein and associates[3] reported on 26 patients with severe dermatitis who were treated with ARISTOCORT. Most of these patients had previously been on prednisolone, and had developed severe hormonal side reactions. ARISTOCORT controlled the symptoms effectively on ⅔ the dosage of prednisolone. There was only a low incidence of side effects that did not require interruption of therapy; and in many cases, side effects that had developed with the earlier corticosteroid disappeared with ARISTOCORT.

Appel and associates[4] and Friedlaender and Friedlaender[5] have also found ARISTOCORT effective in treating dermatoses with about ½ to ⅓ the dosages required with prednisone and prednisolone.

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white).

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5. Friedlaender, S., and Friedlaender, A. S.: *Antib. Med. & Clin. Ther.* 5:315 (May) 1958.

NEW! ARISTOCORT CREAM (Triamcinolone Acetonide 0.1% LEDERLE) for dermatologic use

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.

a traffic jam in the car rental business.

One of the big renters is stepping out. It is Greyhound Corporation. It tried this end of the business for two years, and doesn't want any more of it.

Greyhound took this step as part of a diversification program, its president, F. W. Ackerman said recently. Almost from the start it failed to operate on a profitable basis.

"We felt that both management and capital tied up could be put to better use in the auto leasing end of our business," he added. As far as Greyhound's long-term leasing of trucks and cars are concerned, he said, "we most emphatically will continue in that business."

Negotiations for sale of the company's U-Drive-It stations are being held with three or four prospective purchasers, and the business may be split up among three, four or perhaps five purchasers.



Inquiries are received from a number of investors asking for information regarding specific securities. Answers are presented here on the basis of information received from recognized analysts and represent their considered opinion.

Pepsi-Cola

Since the present management took over in 1950 its sales and income have maintained an upward trend. The outlook is improved because of plant modernization and the strengthening of the domestic franchise organization. The well-protected dividend provides a good yield.



Blaw-Knox

Its 1958 earnings will probably turn out to be about $3.75 a share against the $3.99 reported for 1957. However, the management is confident this will be a more bountiful year and it has given tangible evidence of this by increasing the quarterly dividend to 35 cents compared with 30 cents paid the previous quarter. The company is an important builder of equipment for industry and over the long term its sales have shown a steady increase.

Continental Insurance

It is a strong company, as is Fidelity-Phoenix. Both have appeal for the investor who is looking for growth but isn't in a hurry. Others with similar appear are Great American, Hartford Fire and Insurance Company of North America.



Allis-Chalmers

The 1958 report probably will show a decline in sales but with an improvement in the final half. Management says the profit margin will probably work out a little better than in the previous year. Ending of the drought in the

southwest and the record wheat harvest have helped farm equipment sales. Larger power generating equipment sales are expected this year because of the modernization and expansion plans of the power industry.

Bucyrus-Erie

The 1958 earnings are estimated as low as 25 cents a share against the $2.77 reported the previous year. The outlook for this year is far more favorable and the company is in a position to benefit from the highway program.

Celotex Corporation

The stock provides a good yield and the management is optimistic that this fiscal year, to end October 31, will produce better results than did the last one. The company's financial condition is strong, with the ratio of current assets to current liabilities 4.3 to one. At the close of 1957 its working capital alone was equal to more than $23 a share.

Tidewater Oil

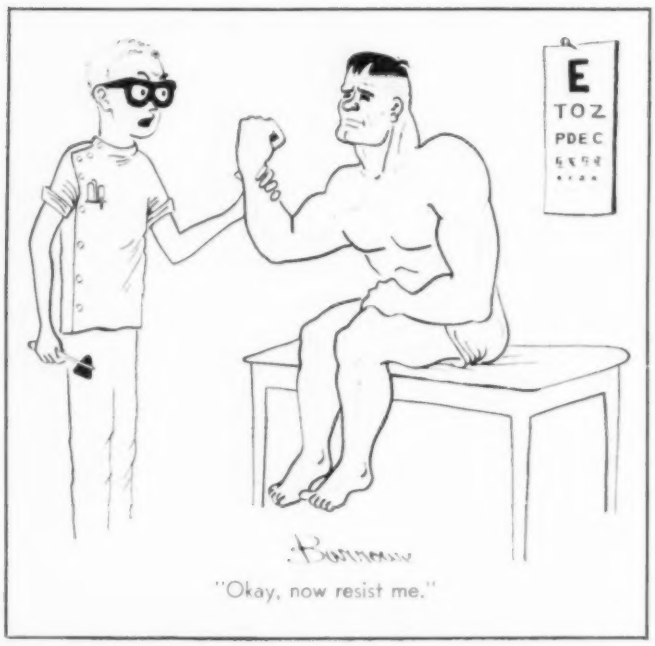
Restrictions on the importation of cheap foreign crude oil have operated against its earnings. As the outlook is for a continuation of such restrictions it might be well to postpone contemplated purchases.

Singer Manufacturing

Reports in the financial district are that while its domestic sales have held well, its foreign operations in 1958 were somewhat below those of the previous year. The stock is a good 'business man's risk' as the outlook this year is favorable.

Ohio Oil

It is an integrated oil company and one of its advantages is that it produces more than twice the crude oil it uses in its own refineries. Earnings this year are roughly estimated at $3 a share, thus protecting the current $1.60 divi-



"Okay, now resist me."



HELPS PALSIED PATIENTS "LIVE AGAIN"

COGENTIN®

METHANESULFONATE (BENZTROPINE METHANESULFONATE)

rated the best single drug for the palsied patient[1]

- Well tolerated and markedly effective, COGENTIN *"should be added to the treatment program of every patient with paralysis agitans."*[2]
- COGENTIN *gives symptomatic relief* in all types of parkinsonism—whether postencephalitic, idiopathic, or arteriosclerotic.
- COGENTIN *provides highly selective action* such as no other current drug affords.[2] It is often of benefit in rigidity, muscle spasm, even in severe tremor.[3] The contracture of parkinsonism is relieved and posture is improved.[3]
- *With the help of* COGENTIN, *therapy with tranquilizers can often be continued* in patients in whom trembling would otherwise force reduction or withdrawal.[4]

As COGENTIN is long-acting, one dose daily may be sufficient.

Supplied: as 2 mg. quarter-scored tablets in bottles of 100 and 1000.

1. M. Clin. North America 38:485 (March) 1954. 2. J.A.M.A. 162:1031, 1956. 3. J.A.M.A. 156:680, 1954. 4. Yale J. Biol. & Med. 28:308, 1955/56.

COGENTIN is a trade-mark of Merck & Co., Inc.

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

dend with a good margin to spare. The speculation here is on the possible success the company may have in its foreign exploration work. It is interested in such work in Libya, Venezuela and Alaska.

National Shares

This is an investment trust managed by Dominick and Dominick, a large, highly regarded investment house. It is one of the few trusts that can be bought on the New York Stock Exchange by payment of the usual brokerage commissions. While not as big as Tri-Continental and other trusts it is well diversified and at this writing (January 29) is selling at about a twenty percent discount from asset value.

Chemetron Corporation

When its 1958 earnings are made public they will probably be short of $1 a share, the lowest in several years, but the outlook is far better for 1959, with some analysts estimating $2.50 a share. This is the former National Cylinder Gas Co. It has an issue of 5⅛ per cent debentures outstanding which is convertible into common stock, at the rate of 24.4 shares per $1,000 bond. This provides a good yield and, because of the conversion feature, the bonds are an attractive way to speculate in any future gains in the stock.

International Shoe



The industry appears to have been comparatively little affected by the business recession last year and industry leaders expect this year's results to be fully as pleasing. International produces about 9 per cent of this country's output, which is estimated for 1959 at some 600,000,000 pair, possibly 605,000,000 a new record. The company is the largest single producer and should benefit from the industry's bright outlook.

Continued on page 154a

If he needs nutritional support...



he deserves

GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

cold sufferers never dry...



they just blow away!



Until you provide
GREATER RELIEF
with longer-acting*

Novahistine LP

*A single dose provides relief for as long as 12 hours.

Novahistine LP† combines the action of a quick-acting sympathomimetic with an antihistaminic drug for a *greater* decongestive effect.

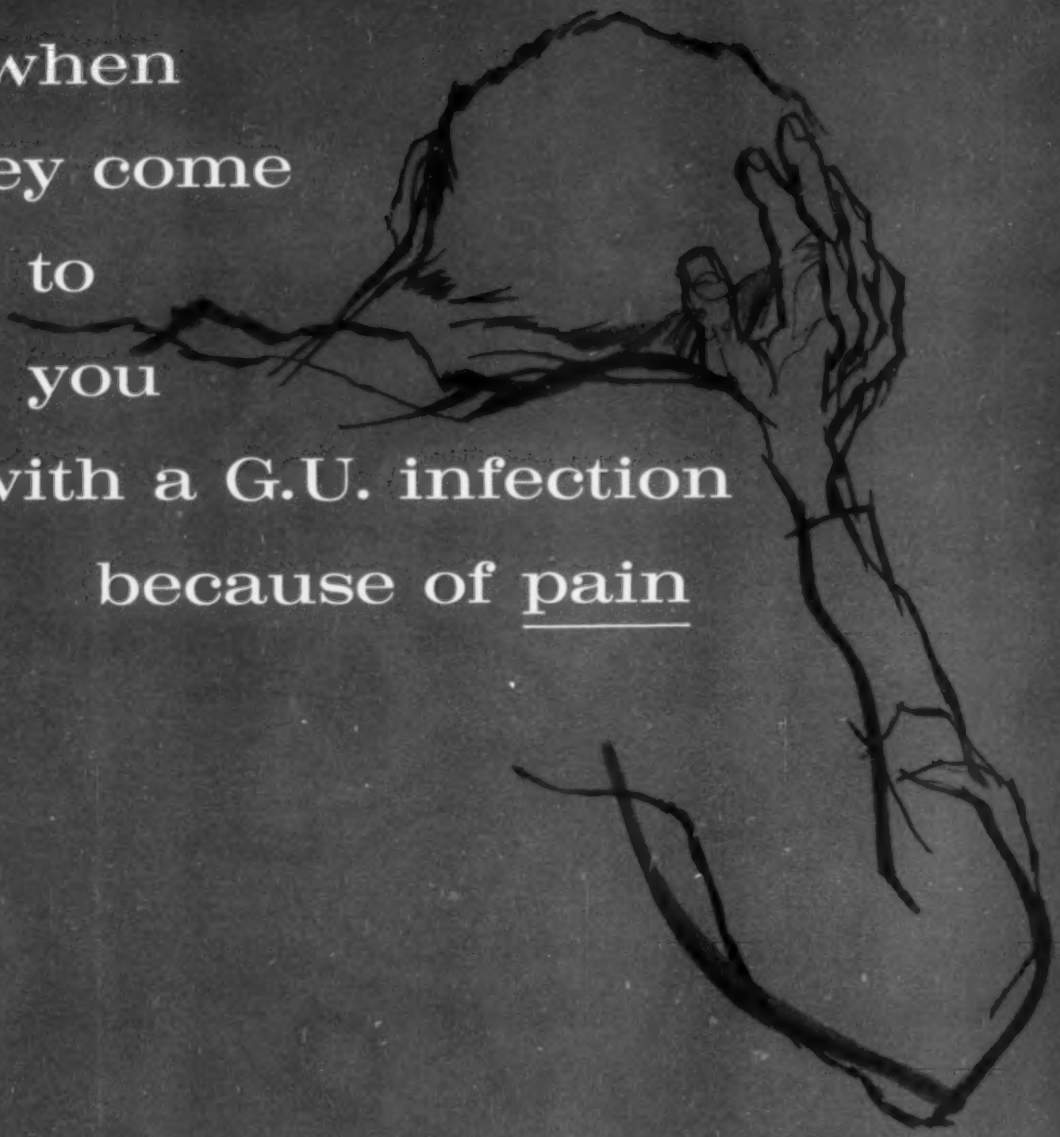
Each LP tablet contains:
Phenylephrine hydrochloride..... 20 mg.
Chlorprophenpyridamine maleate. 4 mg.
Supplied in bottles of 50 and 250 tablets.

Usual dose: Two tablets, morning and evening. For mild cases (and children), 1 tablet. Occasional patients may require a third daily dose, which can be safely given.

†Trademark

PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC.
INDIANAPOLIS 6, INDIANA

when
they come
to
you
with a G.U. infection
because of pain



Azotrex

Symptoms of urgency, frequency, painful urination, incomplete emptying of the bladder, and backache usually first cause the patient to seek help from his physician. AZOTREX Capsules provide both the rapid symptomatic relief desired by the patient, and the vigorous antibacterial measures required for control of the underlying infection.

rapid relief of pain

Specific urinary analgesic action of *phenylazo-diamino-pyridine HCl*—long noted as the standard G.U. tract analgesic—offers dramatic relief of painful symptoms. Visual confirmation of prompt action is the change in the color of urine the patient sees shortly after taking his first capsules of AZOTREX.

early control of infection

Combined activity of TETREX *(tetracycline phosphate complex)* and Sulfamethiazole offers unusually effective control of the gram-negative and gram-positive bacterial components identified in a great number of acute and chronic infections of the urinary tract. AZOTREX is especially indicated in mixed infections.

TETREX is the rapid and efficiently absorbed oral form of the antibiotic well-known for its broad-spectrum activity; singular freedom from such dangerous toxic reactions as blood dyscrasias, renal toxicity, hepatitis, neurotoxicity, anaphylaxis; and minimal undesirable side effects. TETREX is effective against a wide variety of organisms, including *streptococci, staphylococci, pneumococci, gonococci, E. coli, A. aerogenes, Shigella.* The excellent clinical results achieved with *Sulfamethiazole* in urinary tract infections[1] are based on its remarkably high solubility (130X as soluble as sulfadiazine—the standard of comparison in sulfa therapy), low degree of acetylation in urine (only 5-7%), rapid and complete urinary excretion[2]. . . and broad-range usefulness, particularly in those patients sensitive to other sulfonamides.[3] Sulfamethiazole is effective against sulfonamide-sensitive organisms, including *E. coli,* streptococci, pneumococci, *B. faecalis,* gonococcus.

With regard to *B. proteus, Pseudomonas* and *Acrobacter aerogenes* results are unpredictable and sensitivity determinations are necessary to determine beforehand the effectiveness of any sulfonamide or antibiotic. Well-tolerated, with a wide margin of clinical safety, AZOTREX offers unsurpassed antibacterial treatment of urinary tract infections due to sulfonamide-sensitive and tetracycline-sensitive organisms.

an excellent choice in G.U. infections

Azotrex®

TETRACYCLINE — SULFONAMIDE — ANALGESIC

Azotrex Capsules

each capsule contains:

TETREX (tetracycline phosphate complex equivalent to tetracycline HCl activity)	125 mg.
Sulfamethiazole	250 mg.
Phenylazo-diamino-pyridine HCl .	50 mg.

minimum adult dose:

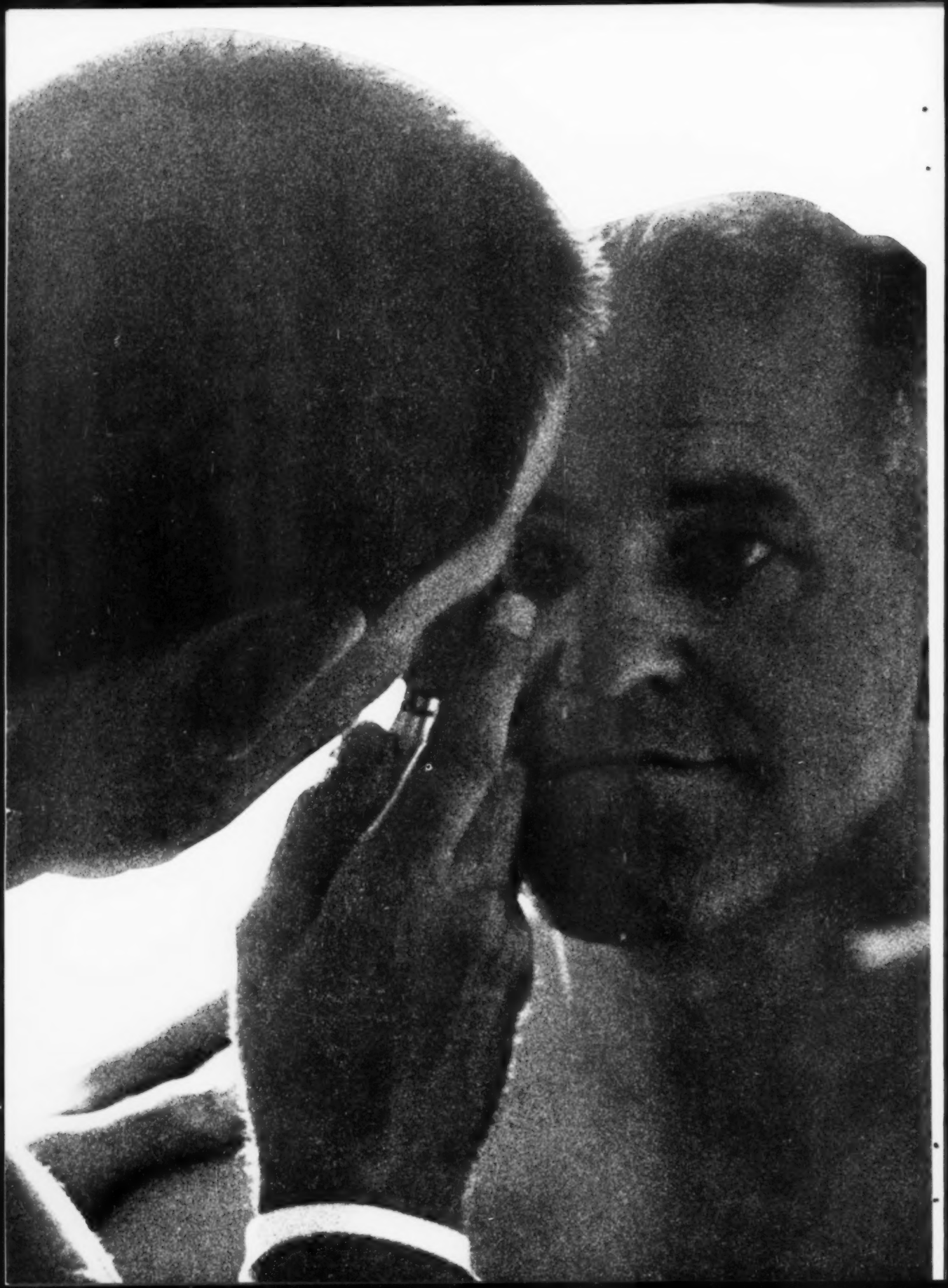
One capsule q.i.d.

supplied:

Bottles of 24 and 100 Capsules.

References: 1. Buckwalter, F. H. and Cronk, G. A.: Antibiotic Med. & Clin. Ther. 5:46-51 (Jan.) 1958. 2. Osol, A., and Farrar, G. E., Jr., eds.: The Dispensatory of the United States of America. 25th Edition, Philadelphia, J. B. Lippincott Co., 1955, p. 1881. 3. Council on Pharmacy and Chemistry. J.A.M.A. *161*:971 (July 7) 1956.

Bristol

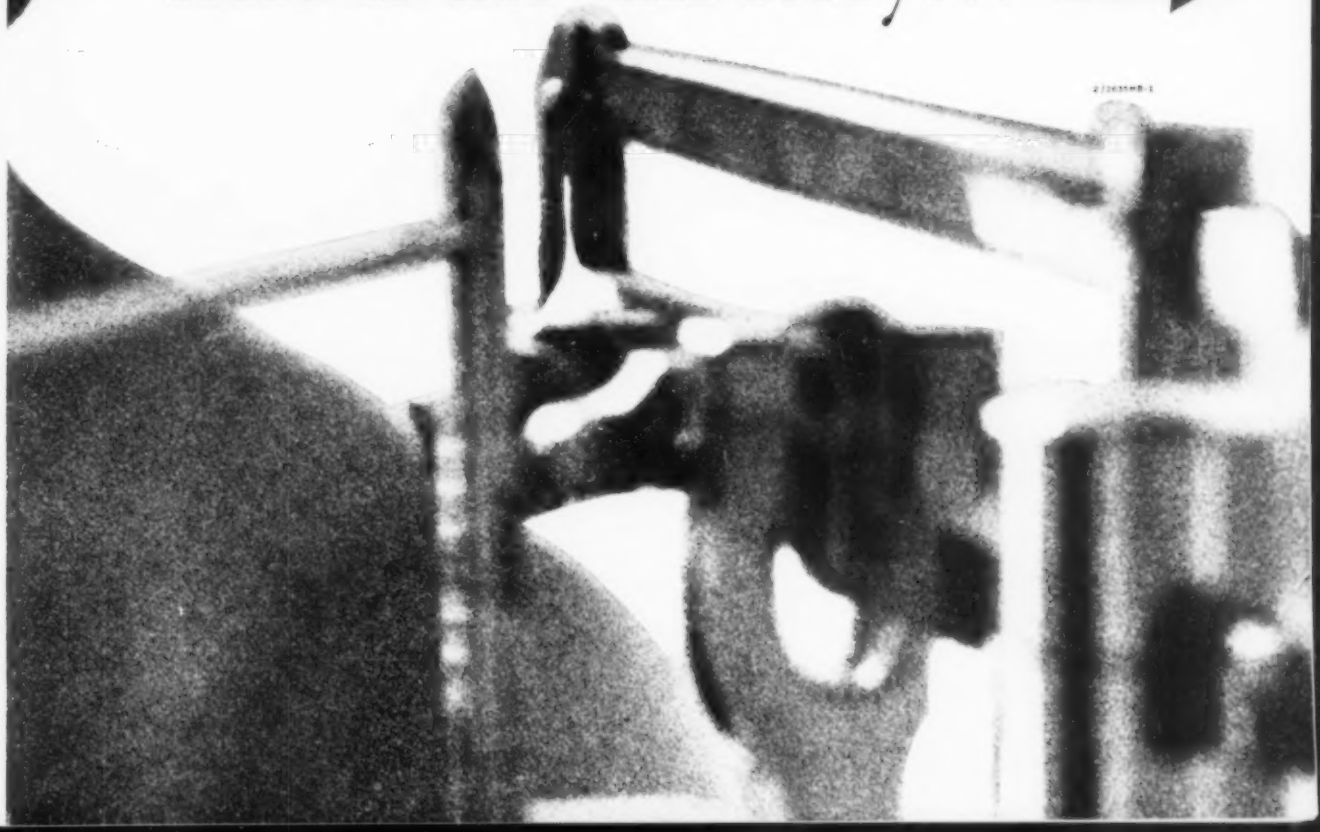


The drug that lowered this patient's blood pressure *for the first time without side effects* is now available for your prescription...

Created by CIBA
World Leader in Hypertension Research

Singoserp™
(syrosingopine CIBA)

here is the full story... *please turn*



a major improvement in rauwolfia
a major advance in antihypertensive therapy

Developed after three years of basic research, proved during one of the most extensive clinical trials in pharmaceutical history, here is what **Singoserp** *can do:*

Patient P. K. was first seen with a blood pressure of 220/138 mm. Hg; he complained of headache, palpitation, nervous tension and hyperhidrosis.



Hospitalized briefly for observation and treatment, he was placed on a 4-Gm. sodium diet, plus chlorothiazide and mecamylamine regulated according to b.p. reading, which he was taught to take himself.



One month later his blood pressure was 140/104; he complained of dryness of mouth, chest pain, constipation and nocturia (twice a night). He was then started on Singoserp (0.5 mg. daily) with instructions to reduce the other medications to the extent possible, as evidenced by his b.p. readings.



After five months on Singoserp the patient's blood pressure ranged between 120/84 and 140/100. No mecamylamine was required; only ⅓ the original dose of chlorothiazide was required. One month later, chlorothiazide was stopped and the patient was maintained on Singoserp alone, 1 mg. b.i.d. Favorable blood pressure response continues and patient feels well. Since taking Singoserp patient reports *no* chest pain, *no* mouth dryness, *no* other side effects.



Singoserp™

(syrosingopine CIBA)

Solves the Side Effects Problem in Most Hypertensive Patients

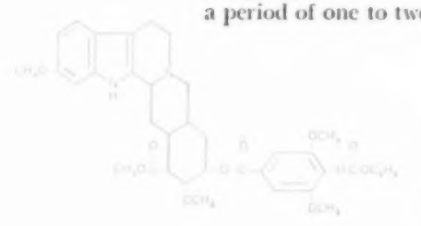
1. For new hypertensive patients Singoserp is the ideal antihypertensive drug for new patients because it lowers blood pressure without creating the side effects problem posed by conventional rauwolfia agents.

2. For hypertensive patients already undergoing drug treatment Singoserp, added to any antihypertensive regimen, makes it possible to maintain blood pressure levels achieved with more potent agents, while reducing their dosage requirements—or even eliminating them altogether in some cases.

Infrequent side effects—"The chief advantage of [Singoserp] over other Rauwolfia derivatives seems... to be the relative infrequency with which it produces disturbing side effects."[1]

Less sedation—"It [Singoserp] is approximately equipotent to reserpine as a hypotensive agent but is definitely less sedative or tranquilizing."[2]

Depression relieved—"In those patients who had been depressed, [Singoserp] was substituted for other Rauwolfia preparations and within a period of one to two weeks this depression was relieved."[3]



Created in the laboratory by altering the reserpine molecule so as to preserve its antihypertensive property and virtually eliminate its undesirable side actions.

Dosage: *In New Patients:* Average initial dose, 1 to 2 tablets (1 to 2 mg.) daily. Some patients may require and will tolerate 3 or more tablets daily. Maintenance dose will range from ½ to 3 tablets (0.5 mg. to 3 mg.) daily. When necessary for adequate control of blood pressure, more potent agents may be used adjunctively with Singoserp in doses below those required when they are used alone. *In Patients Taking Other Antihypertensive Medication:* Add 1 to 2 Singoserp tablets (1 to 2 mg.) daily. Dosage of other agents should be revised downward to a level affording maximal control of blood pressure and minimal side effects.

Supplied: Singoserp *Tablets*, 1 mg. (white, scored); bottles of 100.

References: 1. Herrmann, G. R., Vogelpohl, F. B., Hejtmancik, M. R., and Wright, J. C.: To be published. 2. Wolffe, J. B.: Mod. Med. 26:253 (Feb. 1) 1958. 3. Bartels, C. C.: To be published.

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CIBA
SUMMIT, N. J.



General Baking

The company has done well in recent years and the 1958 figures are expected to show record sales, with earnings of $1.30 a share possible. The current yield is good. The stock is not the kind to become a market leader but it represents sound value.

Metal & Thermit Corp.

The largest detinner and producer of tin chemicals, and it also produces inorganic chemicals for the electroplating and ceramic industries. The stock lost many of its friends during the business recession last year but is in a position to do better now. The company carries on an aggressive research program and products it has developed in the last ten years now account for 30 per cent of its sales.

URGE OVERSEAS TAX CHANGES

Congress will be asked this year to make changes in United States taxes and tariffs growing out of international trade. It is the belief of the International Chamber of Commerce, and other business groups, that foreign capital investments by American industry abroad are being penalized by our present policies.

Hearings have been held before a House Ways & Means sub-committee which is studying the role of private capital in the United States and its influence on the foreign economy. The aim is to provide new incentives for overseas investors and the first step will aim to secure deferral or elimination of United States income taxes on incomes earned abroad. Treasury spokesmen oppose any general exemption.

On the theory that it is to the advantage of this country to have foreign economies healthy, and that their industrial development will lessen the demand for government loans or grants, the business men are taking a stand that is at variance with their isolationist attitude of a few decades ago.

Russell Banker, Chicago, one of the witnesses at an early hearing, pointed out that the United States is the only major trading nation that taxes foreign-source income as though it had been earned in this country.

The Chamber's view is that foreign earnings should not be taxed here unless they are brought back to the United States or distributed as dividends.

Outright tax exemption for all foreign-source income has been recommended by Paul D. Seghers, representing the New York Board of Trade and the Federal Tax Forum, Inc.

R

hidden comfort inner security





You are giving very special physical comfort to your patients with RAMSES® Diaphragm and Jelly® because the RAMSES Diaphragm has a soft, cushioned rim and is flexible in all planes to permit complete freedom of motion, and because RAMSES Jelly is uniquely suited for use with the RAMSES Diaphragm. It is not a static jelly or cream, but flows freely over the rim and surface to lubricate the diaphragm, add comfort, and protect the patient for *ten full hours*.

With* RAMSES *Diaphragm and Jelly you are also providing essential inner security, since your patient is assured she can plan her family according to her wishes, safe in the knowledge that she is using not only the most reliable method — diaphragm and jelly — but the most comfortable and reliable diaphragm and jelly, RAMSES. As Tietze[1] has pointed out, the diaphragm and jelly method reduces the likelihood of conception by at least 98 per cent.



Ramses®

After fitting the diaphragm, prescribe the complete unit — the new RAMSES "TUK-A-WAY"® Kit #701 with diaphragm, introducer and jelly in an attractive new zipper case which opens top and side.

For those who put a special value on simplicity and convenience, such as "just marrieds," new IMMOLIN® Cream-Jel for use *without a diaphragm* is now available. IMMOLIN forms an impenetrable matrix in which sperm are trapped, lose vitality and die. The first published study[2] on IMMOLIN covering 1,729 patient-exposure months shows a low rate of 2.01 unplanned pregnancies per 100 woman-years of exposure.

JULIUS SCHMID, INC., 423 West 55th Street, New York 19, N. Y.

1. Tietze, C.: Proceedings, Third International Conference Planned Parenthood, 1953.
2. Goldberg, A. Z.: OBST. & GYN. 10:13 (Aug.) 1957.

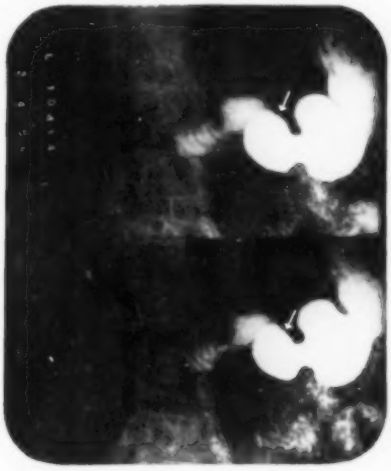
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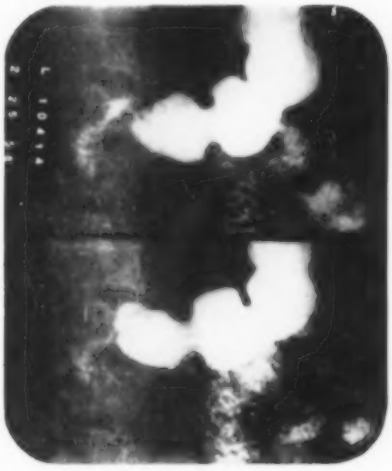
relieve the tension



—and control its G.I. sequelae



Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



PATHIBAMATE *(Tabs. j t.i.d. and H.S.)*; prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

Pathibamate®

Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

Used prophylactically in anticipation of periods of emotional stress, or therapeutically to relieve tension and curb hypermotility and hypersecretion. PATHIBAMATE is particularly well-formulated for the control of gastrointestinal disorders.

PATHIBAMATE **combines Meprobamate** (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and PATHILON (25 mg.) — an extremely well-tolerated anticholinergic, long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½ scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Also Available: PATHILON in four forms — ***Tablets*** of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue); ***Parenteral*** — 10 mg./cc. — 1 cc. ampuls; ***Pediatric Drops*** — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

℞

Prescription For Travel

Photos by the Florida State News Bureau





Florida's Big Season

New luxury motels—complete with beach areas, swimming pools and nightclubs — and special recreational facilities for the younger set are important attractions for the family vacationing in Miami.

With the return of a warm sun and mild breezes, comforts made conspicuous by their absence last winter, it appears that Florida is in for a big season.

Even the 38-day strike which hit Eastern Airlines, normally the busiest carrier serving the area, did not appreciably slow down the flow of Christmas visitors to Miami. Vacationists turned to the family car for transportation when they could not get air passage.

In addition to prospects of good weather, it is pleasant to note that Florida prices are much the same as they were last year. In and around Miami, most American plan hotels have daily rates starting at about $10 per person; European plan establishments charge from $30 and up for a double room.

Of special interest to those who drive south is the trend toward plush motels, establishments which offer informal vacationing as well as fancy facilities. A good example is the Montmartre on Miami Beach, which boasts a nightclub, swimming pools, beach and cabana club areas. This 300-room motel charges $12 per person daily on the European plan. A modified American plan is also available, at higher rates.

If you bring your children with you, you will find more things for them to do than in previous years. Most Miami hotels now feature special events and facilities for the younger mem-



House call: agitation

The acutely excited patient can be quickly calmed when SPARINE is on hand in the physician's bag. In both medical and mental emergencies, SPARINE quiets hyperactivity, encourages cooperation, and simplifies difficult management.

SPARINE gives prompt control by parenteral injection and effective maintenance by the intramuscular or oral route. It is well tolerated.

Comprehensive literature supplied on request

Sparine HYDROCHLORIDE

Promazine Hydrochloride, Wyeth

INJECTION **TABLETS** **SYRUP**

Wyeth
Philadelphia 1, Pa.



Palm trees, umbrellas and water — a hotel pool at Miami. For the more robust, there's the ocean.

bers of your party. Supervised group activities such as swimming parties and beach picnics, and "rock and roll" rooms are prime attractions for the teenager. Baby sitting services are available for the small fry.

Pleasant Route

For Florida-bound drivers with extra time at their disposal, a pleasant route to follow is U. S. 98. It not only provides some of the most scenic sights in the state but offers a cross-section of life in Florida.

This winding 700-mile highway begins in the state at historic Pensacola and races along the northwest coastal section called the "Miracle Strip," where are found some of the world's whitest beaches. In addition to Pensacola, the strip includes Panama City and Fort Walton Beach.

These resort cities have gone on a building spree to insure additional accommodations, recreation and sports facilities for tourists. On the planning boards, under construction or already completed, are 716 motel units estimated to cost $3,580,000. Not included in this total are additional swimming pools and restaurants.

Panama City, located at the eastern end of the "Miracle Strip" area, is scheduled for 400 new motel units. Pensacola's Santa Rosa Island has seen completion of 24 additional motel units and 104 cottages with 60 motel units completed or on the boards.

Fishing

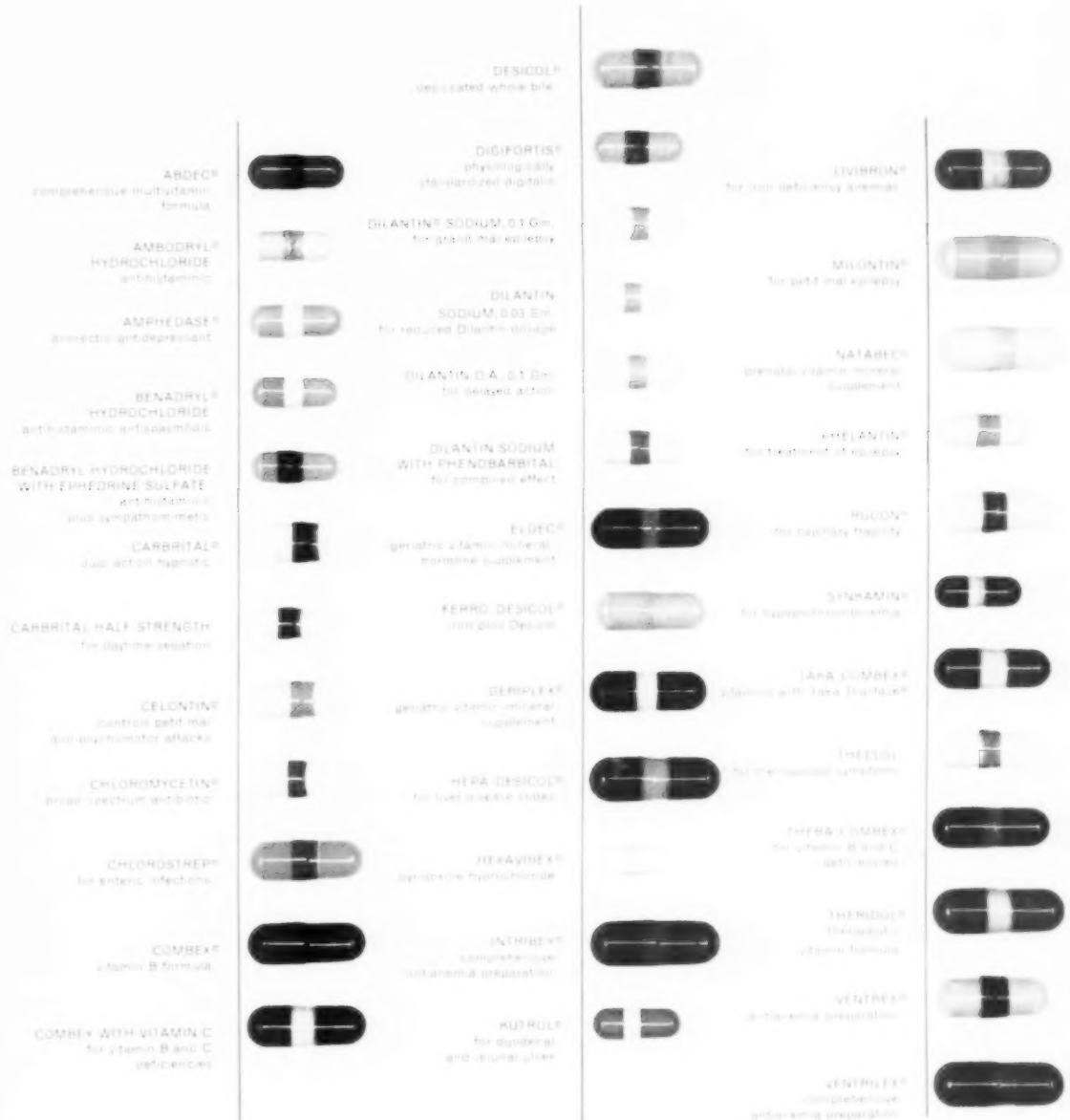
Angling addicts will find a new 800-foot fishing pier in a 16-acre park on U. S. Highway 98, on the Gulf of Mexico and in the center of the 23 mile beach area strip. The new park will include picnic shelters and parking lots.

Panama City's 48 charter and party boats are readily available. Party boats charge $5

The distinctive colored bands identify

KAPSEALS®

as Parke-Davis products



MEDICAMENTA VERA

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN

WITH KAPSEALS®...IMMEDIATE IDENTIFICATION



Each **KAPSEAL** is identified as a Parke-Davis product by the unique color band.

no confusing these well-known Parke-Davis products...

DILANTIN® SODIUM
(diphenylhydantoin sodium, Parke-Davis)

A widely used anticonvulsant especially effective in the treatment of grand mal epilepsy, **DILANTIN** prevents or greatly decreases the incidence and severity of seizures. It has little hypnotic or narcotizing effect. **DILANTIN** may also be used in certain other convulsive states.

BENADRYL® Hydrochloride
(diphenhydramine hydrochloride, Parke-Davis)

BENADRYL provides rapid, dual-action relief of allergic symptoms. Its antihistaminic action promptly controls rhinorrhea, itching, nasal blocking, and related histamine reactions, while its atropine-like antispasmodic effect suppresses bronchial and gastrointestinal spasms.

CHLOROMYCETIN®
(chloramphenicol, Parke-Davis)

A highly effective broad-spectrum antibiotic, **CHLOROMYCETIN** gives excellent clinical results in many infectious disorders, including cutaneous and subcutaneous infections, ophthalmic infections, infections of the ear, nose, and throat, enteric and urogenital infections, infections of the central nervous system, generalized systemic infections, and surgical infections.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

P-765

per person, and the going rate for charter boats is $60 per day. The Panama City Chamber of Commerce has available upon request a "Rookie Fishing Guide." It is distributed in the belief that everyone, novice or expert, is a rookie to a new fishing area. The booklet briefly explains where the fish are and how to catch them.

Panama City has also begun construction of two large new marinas which will include a 3,500 seat city auditorium, tourist center, recreation areas and complete docking facilities.

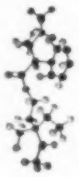
New facilities at St. Andrew State Park will permit boat launching for outboards into Grand Lagoon, which connects with St. Andrew Bay and the Gulf.

Last year saw the premier season of Fort Walton Beach's new Tower Beach Casino on Okaloosa Island Beaches. The Casino, a two-story structure covered with an arched concrete roof, fronts the deep blue waters and sugar white sands of the Gulf. Bathhouse facilities, dancing and a large parking area are featured. Nearby is the 500,000 gallon captive marine life tank of the Gulfarium. Also known as the "Living Sea," the attraction includes specimens of marine life found in adjacent Gulf waters, leaping porpoises, huge turtles and sharks.

Continued on page 165a



Manatee Springs State Park is a quiet retreat near Chiefland, on U.S. Highways 19 and 98. A new 900-foot boardwalk takes strollers to the waters of Florida's famed Suwanee River.

three-way mechanism of action  in one molecule

A long step forward

"MUREL"®

Brand of Valethamate bromide

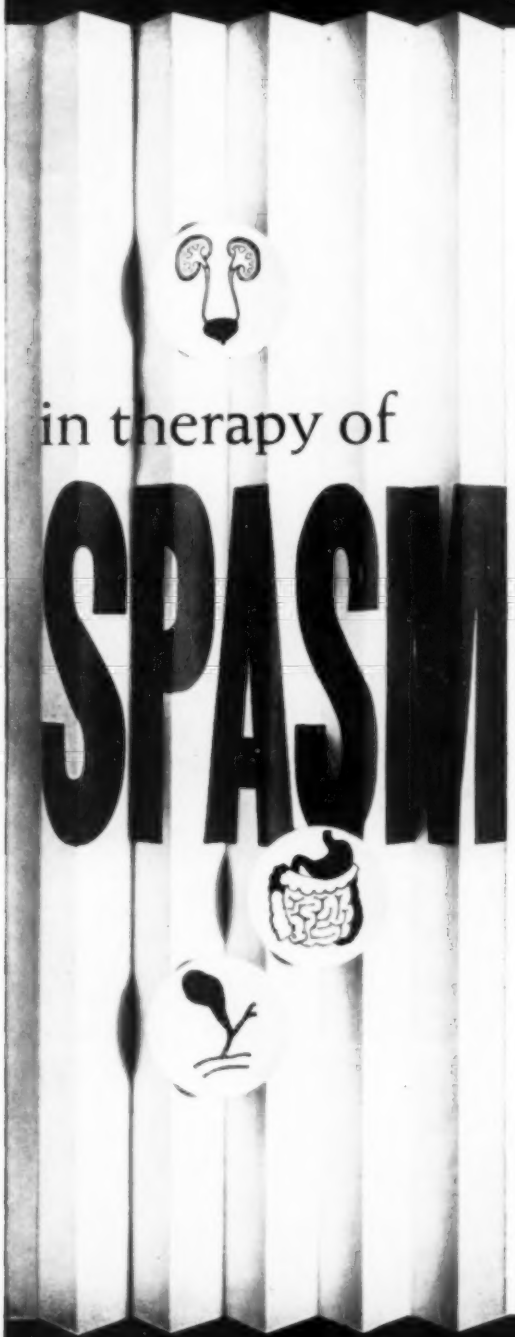
"MUREL" is the newest development of research in quaternary ammonium compounds. It advances today's therapy of G.U., G.I. and biliary tract spasm toward the ideal in decisive relief without intolerance or drug-induced complications. "MUREL" also supplements peptic ulcer therapy by breaking the chain reaction of spasm-pain.

Dosage: Mild to moderate cases: initially, 1 or 2 tablets four times daily. Acute or severe cases: 1 to 2 cc. (10-20 mg.) intravenously or intramuscularly every four to six hours up to maximum of 60 mg. in 24 hour period. The higher dosage range is usually required in spasm of G.U. and biliary tract.

Supplied: "MUREL" Tablets—10 mg. Valethamate bromide, bottles of 100 and 1,000. "MUREL" Injectable—10 mg. per cc., vials of 5 cc. (Also available: "MUREL" with Phenobarbital Tablets—10 mg. Valethamate bromide with ¼ gr. phenobarbital per tablet, bottles of 100 and 1,000.)

Ayerst Laboratories • New York 16, N. Y. • Montreal, Canada

Ayerst®



in therapy of

SPASM



Three-Way Mechanism of Action in One Molecule

"MUREL" unites three mechanisms specific for smooth muscle spasmolysis: (1) **anticholinergic** inhibition of parasympathetic transmission, (2) **musculotropic** action with specific affinity for smooth muscle fibers, and (3) **ganglionic blocking** action at the synaptic level.

Precludes or Minimizes Untoward Side Effects

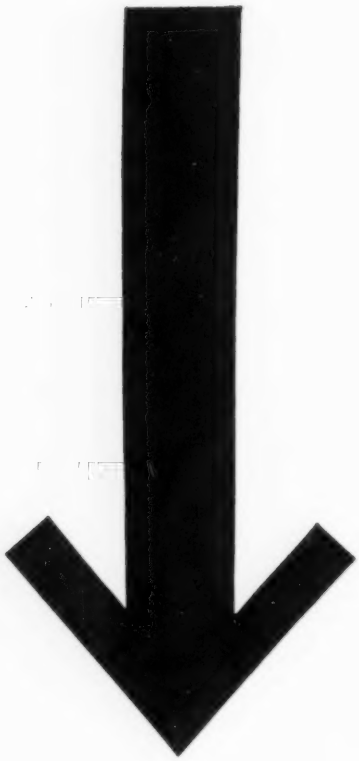
"MUREL" is especially well tolerated because: (1) coordination of the three component actions permits significantly low dosages and also reduces reaction potential of any one mechanism, (2) a natural specificity confines the anticholinergic action to the effector cells of smooth muscle, (3) definite but transient ganglionic blocking action eliminates undesirable parasympathetic disturbances, (4) rapid detoxification and excretion prevent cumulative effect.

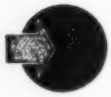
Widely Useful— Clinically Demonstrated

"MUREL" extends the clinical scope of dependable spasmolytic therapy, with indications ranging from mild to severe hypertonicity. In postoperative *genitourinary spasm*, cystitis and pyelitis—effective relief of pain and spasm was noted in all of 75 patients.[1] In *peptic ulcer*—complete or substantial relief from the pain/spasm cycle was reported in 119 out of 127 patients.[2,3] In *biliary spasm* and chronic cholecystopathies with or without stones—prompt, complete control of spasm was obtained in 20 out of 22 patients.[3]

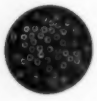
Peiser[2] states that even extremely strong convulsive abdominal pain and violent vomiting could be eliminated or substantially improved, and no unpleasant side effects or toxic reactions were noted at any time.

1. Berndt, R.: Arzneimittel-Forsch. 5:711 (Dec.) 1955.
2. Peiser, U.: Med. Klin. 50:1479 (Sept. 2) 1955.
3. Winter, H.: Medizinische, p. 1206 (Aug. 27) 1955.





PENETRATES*



SOFTENS FECES



ADDS FORMED BULK



EASES EVACUATION

*Unique encapsulation of millions of minute oil globules by Irish moss assures complete penetrant diffusion in stools.

IN CONSTIPATION

TO SOFTEN STOOLS WITHOUT TISSUE DEHYDRATION AND MAKE THEM MOVE WITHOUT STRAINING

KONDREMUL®

COLLOIDAL EMULSION OF MINERAL OIL AND IRISH MOSS patch

PROVEN SAFE...EFFECTIVE • IN PREGNANCY • IN CHILDHOOD • IN MIDDLE-AGED PATIENTS • IN ELDERLY PATIENTS • **THROUGH MORE THAN 25 YEARS OF USE**

AVAILABLE in three pleasant-tasting formulas:

for the average patient
KONDREMUL (Plain)
containing 55% mineral oil. Bottles of 1 pint.

for more hypotonic cases
KONDREMUL WITH CASCARA
0.66 Gm. non-bitter Ext. Cascara per tablespoonful.
Bottles of 14 fl.oz.

for more resistant constipation
KONDREMUL WITH PHENOLPHTALEIN
0.13 Gm. (2.2 gr.) phenolphthalein per tablespoonful.
Bottles of 1 pint.

patch **THE E. L. PATCH COMPANY** Stoneham, Massachusetts

70 YEARS OF SERVICE TO THE MEDICAL PROFESSION

TRAVEL

The Fort Walton Beach Playground area offers a complete range of salt water fishing with Choctawhatchee Bay and its Bayous, two fine fishing piers extending out into the Gulf, as well as charter boat fishing from Destin, five miles east. Some 25 party boats, which feature excursions to the snapper banks, and deep sea game fishing charter boats operate out of Destin.

On a slip of land between Garnier's Bayou and Choctawhatchee Bay, at Shalimar, is Fort Walton Beach's new Miracle Strip Marina. Within sight of the entranceway to the Gulf and the inland waterway, the marina offers dry storage, docking and repair facilities.

At Pensacola, the Santa Rosa Island Authority has completed the dredging of a channel into a sabine (basin) near Pensacola Beach which will accommodate a marina. Construction of a deluxe resort hotel west of the beach is also contemplated.

Pensacola Beach features an unusual accommodation which caters only to families who have children. Called Holiday Homes, these cottages may be reserved by writing Gulfbreeze, Florida.

TO OUR READERS: You are avid travelers — as statistics show — taking trips for pleasure and relaxation as well as to attend professional meetings in this country and abroad. In addition, you often prescribe travel for your patients. Thus, the purpose of this department is to give you concise, practical information about one of your strong interests—travel. As a special service, this section will carry each month a calendar of important forthcoming national and international medical meetings.



FOR IRON DEFICIENCY ANEMIAS
THE ORIGINAL HEMATONIC
WITH "INSURED IRON"

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- insured for therapeutic effect by inclusion of vitamin and enzyme metabolites
- insured against side effects by better tolerated ferrous lactate and methylcellulose to maintain "bowel equilibrium"
- particularly valuable for pregnant and geriatric patients
- easy to take — in small, thinly coated tablets

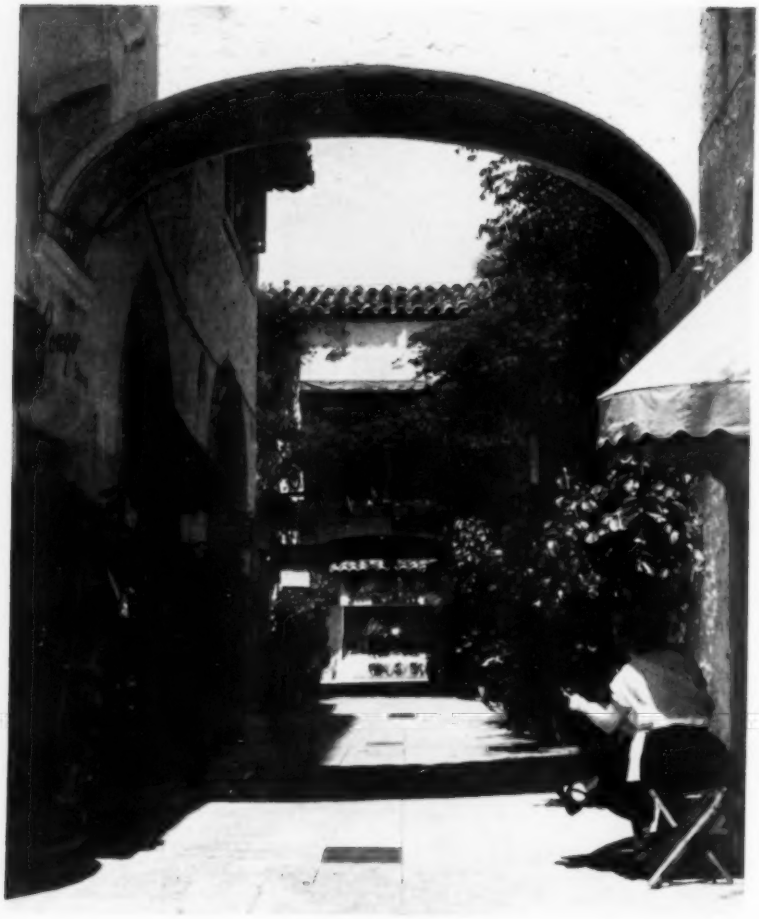
EACH RED, COATED TABLET CONTAINS:

Ferrous lactate (supply mg. 37 mg. elemental iron)	195 mg. (1 gr.)
Vitamin B_{12} crystalline with intrinsic factor concentrate	0.5 U.S.P. unit*
Thiamine hydrochloride	2.5 mg.
Ascorbic acid	50 mg.
Betaine hydrochloride	60 mg.
Methylcellulose	32.5 mg.

*Potency established before formulation

Supplied in bottles of 60 tablets.

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Stoneham, Massachusetts



Old World charm and high quality goods are to be found in the exclusive shopping sections of Palm Beach.

Principal tourist attractions at Pensacola, aside from the wide beaches, are the free sightseeing tours at the Pensacola Naval Air Station and the historical and colorful forts which abound in the area.

On the Road Again

Driving on from the white sands area, the landscape turns into beautiful woodlands, but never are fishing facilities farther away than the cast of a plug. On arriving at Port St. Joe, the motorist will find an old, picturesque community.

Not too far along U.S. 98 is Apalachicola, North Florida's home of the shrimp and oyster fleets. Here too is the adopted home of Dr. John Gorrie, father of the artificial ice machine.

Newport to Perry is a 40 mile stretch of forestland, wildlife and plodding road-crossing turtles. The stillness is of an uninhabited area. Newport also is the site of the St. Marks Wildlife Refuge, with its landspits jutting above the marsh and sawgrass habitat of nesting birds, water fowl and fish.

Newly industrialized Perry with new motels and restaurant facilities greet the visitor before U.S. 98 takes its heady plunge southward into South Florida and the subtropics.

Beautiful Manatee Springs State Park and the historic Suwanee River are the next attractions encountered. Scenic river boat and carriage rides are available and motels offer excellent accommodations.

Crystal River and Homosassa Springs, twin towns of the upper Suncoast, provide outdoorsmen with natural salt and fresh water fishing

competition in Crystal River and King's Bay.

Six miles south of Homosassa Springs, U.S. 98 angles inland toward Brooksville, the "Home of the Tangerine" and its wide oak-shaded streets. Lakeland is the hub of the Central Florida citrus belt and Lake Wales is the home of numerous famous attractions. Both are situated in a land of sparkling lakes. Lakeland is in the highlands region with 14 natural lakes within or near its city limits. Lake Wales, one of the state's better known resorts, is the home of the Singing Tower, Great Masterpiece, Spook Hill and other popular attractions.

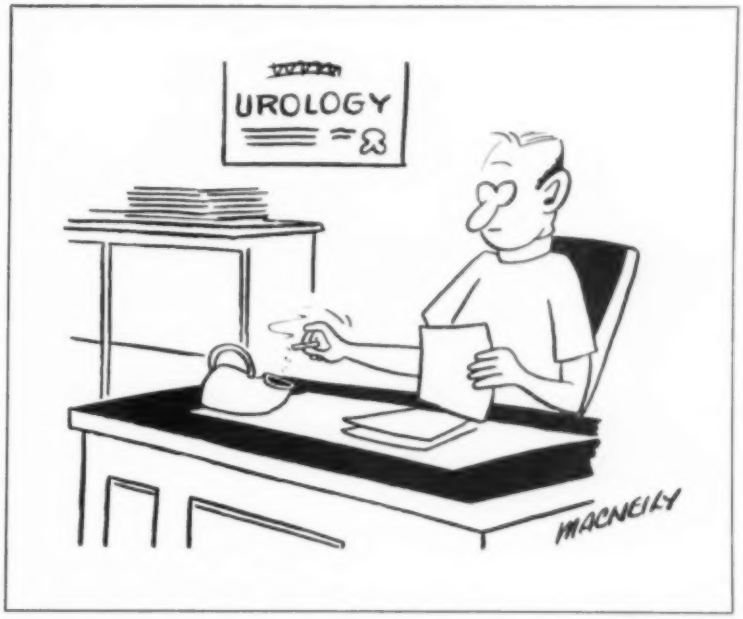
For a short distance U.S. 98 combines with U. S. Highway 27 and continues through the spiny ridge section of the state with its rolling hills which are planted arrow-straight in citrus groves.

Salad Bowl

Sebring, internationally famous for sports car races, is situated on Rex Beach Lake. Highlands Hammock State Park, three miles from town, is a dense subtropical jungle of hardwood trees and cabbage palms decked with ferns, pineapple airplants and orchids. The park also features 800-year-old oaks, catwalks through cypress swamps, picnicking and nature tours.

Okeechobee, 50 miles southeast of Sebring, is but three miles from the northern shore of Lake Okeechobee, the second largest inland lake in the nation. This tropical town of 4,000 population is the site of large cattle auction markets and has several meat and vegetable packing plants. It is also headquarters for winter tours of the Audubon Society. The big lake and the Kissimmee River, both within ten minutes of Okeechobee, abound in largemouth black bass, speckled perch, catfish and crappie. Native Seminole Indians in their colorful Indian garb are attractive camera subjects for tourists. The entire area is called the "nation's salad bowl" and is a land of muck earth, rich and black.

After curving around the northeast section of Lake Okeechobee, U.S. 98 turns southeast, then due east to sophisticated West Palm Beach and the lower Florida Gold Coast, where the amenities of civilization get top billing.



GOLFERS' HAVEN

Florida's "golfingest" resort city, Hollywood, offers six golf courses located within a few minutes' drive from downtown. These layouts are part of the varied recreational fare offered at this Gold Coast resort area, 15 miles north of Miami.

Other attractions include a six-mile stretch of palm-lined public bathing beach, a municipal yacht basin filled with charter and party fishing boats, new municipal tennis courts, and a unique ocean-front walk, a promenade which runs through the heart of the beach area.

Premiering this season is a series of bi-monthly pop concerts presented by Hollywood's new Civic Orchestra. The concerts are held in the city's outdoor bandshell, located in Young Circle Park, in the heart of the city.

Four new hotels and motels opened in December: the $20,000,000 eight-story Diplomat Hotel with 550 rooms, a nightclub, 18-hole golf course and facilities for sports activities; the Aristocrat, Attache and Entrada, three plush resort motels.

Under way is the nightly racing schedule at Hollywood Kennel Club, with an April 1 closing date. Dania Jai Alai Fronton, just north of the city limits, also is under way and has an April 10 closing date.

A family picnic on the beach at Hollywood.





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NASAL SPRAY NEO-HYDELTRASOL®

Prednisolone 21-phosphate with Propadrine®, Phenylephrine® and Neomycin

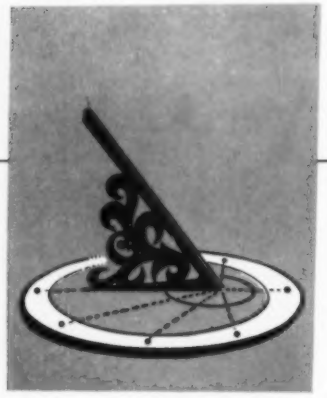
Only NEO-HYDELTRASOL provides its steroid component in true solution—a definite therapeutic benefit, since in pure solution more of the steroid is immediately available to inflamed nasal mucosa.

The anti-inflammatory action of the prednisolone 21-phosphate is reinforced by two valuable decongestants—for fast and prolonged action—and neomycin to combat intranasal infection.

Supplied in 15-cc. plastic spray bottles

NEO-HYDELTRASOL is a trademark of Merck & Co., Inc.

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Calendar of Meetings

A listing of important national and international medical conferences

MARCH

Hot Springs, Va. American Broncho-Esophagological Association, March 8-9. *Contact:* Dr. F. Johnson Putney, 1712 Locust Street, Philadelphia 3, Pa.

San Francisco, Cal. American College of Allergists, March 15-20. *Contact:* Dr. M. Coleman Harris, 450 Sutter St., San Francisco.

APRIL

San Francisco, Cal. American Academy of General Practice, April 6-9. *Contact:* Mr. Mac F. Cahal, Executive Secretary, Volker Blvd. at Brookside, Kansas City 12, Mo.

Miami, Fla. Congress of International Anesthesia Research Society, April 20-23. *Contact:* Dr. A. William Friend, East 107 and Park Lane, Cleveland 6, Ohio.

Los Angeles, Cal. Aero Medical Association, April 27-29. *Contact:* Dr. Thomas H. Sutherland, P.O. Box 26, Marion, Ohio.

Chicago, Ill. American Society of Internal Medicine, April 19. *Contact:* Dr. Clyde C. Greene Jr., 350 Post St., San Francisco 8, Cal.

MAY

Dusseldorf, Germany. Conference on International Union for Health Education of the Public, May 2-9. *Contact:* Secretary-General, 92 rue St. Denis, Paris 1, France.

Atlantic City, N. J. Association of American Physicians, May 5-6. *Contact:* Dr. Paul B. Beeson, Yale University School of Medicine, New Haven 11, Conn.

Atlantic City, N. J. American Society for Clinical Investigation, May 3-4. *Contact:* Dr. S. J. Farber, 550 1st Ave., New York 16, N. Y.

JUNE

Atlantic City, N. J. American Medical Association, Annual Meeting, June 8-12. *Contact:* Dr. F. J. L. Blasingame, 535 North Dearborn St., Chicago 10, Ill.

Amsterdam, Netherlands. International Fertility Association, June 7-13. *Contact:* Dr. B. S. ten Berge, Women's Hospital, Groningen, Netherlands.

JULY

Denver, Colo. Rocky Mountain Cancer Conference, July 22-23. *Contact:* Dr. N. Paul Isbell, 835 Republic Bldg., Denver 2.

Montreal, Quebec. International Congress of Pediatrics, July 19-25. *Contact:* Dr. R. L. Denton, 2300 Tupper St., Montreal 25, Quebec.

Copenhagen, Denmark. International Psychoanalytical Association, July 26-30. *Contact:* Miss Pearl King, 37 Albion St., London, W. 2, England.

the quality of greatness

is rare in any human endeavor. When it appears, it may be perceived in various forms—as a work of art, a discovery, an idea, or an achievement of scientific inquiry. The outward form is incidental, but the intrinsic quality is readily recognized....

To partake of the quality of greatness, a therapeutic preparation must first of all achieve a degree of universality...the cumulative experience of thousands of physicians over a period of many years. From this experience, then, is born that unhesitating confidence which may be summed up in the term "drug of choice."

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"Gantrisin has proved to be most satisfactory for this purpose..."

"... will control approximately 80 to 85% of all bladder infections."

"... the drug of choice in the treatment of acute transient cystitis in the female."

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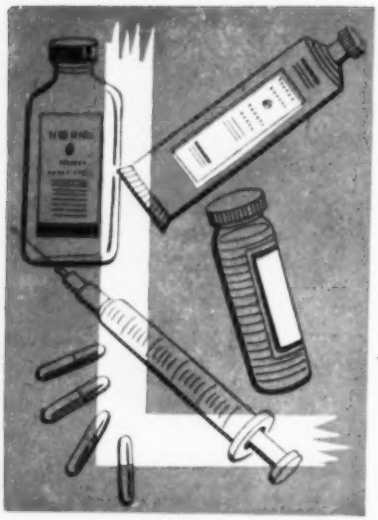
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Antibiotic-Resistant Staphylococcal Outbreaks in a Medical and a Surgical Ward

"In each of these outbreaks a single strain of Staph. pyogenes resistant to penicillin, tetracycline, and erythromycin was widespread in the ward environment, and in each case there is evidence that the strain was introduced into the ward by a patient with superficial skin sepsis. Although the epidemic strain was isolated from the sister in the surgical ward, more probably she was a reflection of the epidemic than its cause, since strains of Staph. pyogenes resistant to erythromycin had not been found in this ward before the admission of case 1 and were very uncommon elsewhere in the hospital. None such had been found when nasal swabs from 540 nurses were examined ten weeks previously.

The outbreak in the medical ward was associated with no severe sepsis, and the strain was apparently eradicated by removing the infected patient, treating the nasal carriers, and changing all the blankets for those treated with a quaternary ammonium compound. In the surgical ward, however, there were 11 cases of infection, many of them severe, and the strain was eliminated only after closure of the ward and spraying with cetrimide.

Probably both the host and the parasite played a part in this difference. As regards the host, patients after operations are highly susceptible to infection. McDermott (1956) has suggested that an 'increased congregation of more susceptible hosts' is one of the main reasons for the apparent increase in staphylococcal infections in hospitals today.

The virulence of the invading staphylococcus must not, however, be overlooked. Staph. pyogenes of phage type 80, the type responsible for the outbreak in the surgical ward, was first isolated in 1953 by Rountree and Freeman (1955) in Australia. They regarded the strain as a new phage type of Staph. pyogenes of 'enhanced virulence,' because of the severity of the lesions and the predominance of this strain in outbreaks of neonatal infection in 1954 throughout Australia. Since then other workers have reported outbreaks of unusually severe staphylococcal infection due to strains of this type in Great Britain (Anderson and Williams 1956, Gillespie and Alder 1957, Duthie 1957).

It cannot be assumed from this that strains of certain phage types are necessarily more virulent than those of other types. Probably the virulence of most strains of Staph. pyogenes may become enhanced in infections (Barber and Burston 1955) and by passage through patients (Rountree and Freeman 1955, Beaven and Burry 1956).

Antibiotic Sensitivity of Infecting Strains

In the surgical ward the infecting strain was initially erythromycin-sensitive but yielded an erythromycin-resistant variant during the treatment of 1 patient with this antibiotic for seven

Continued on page 178a

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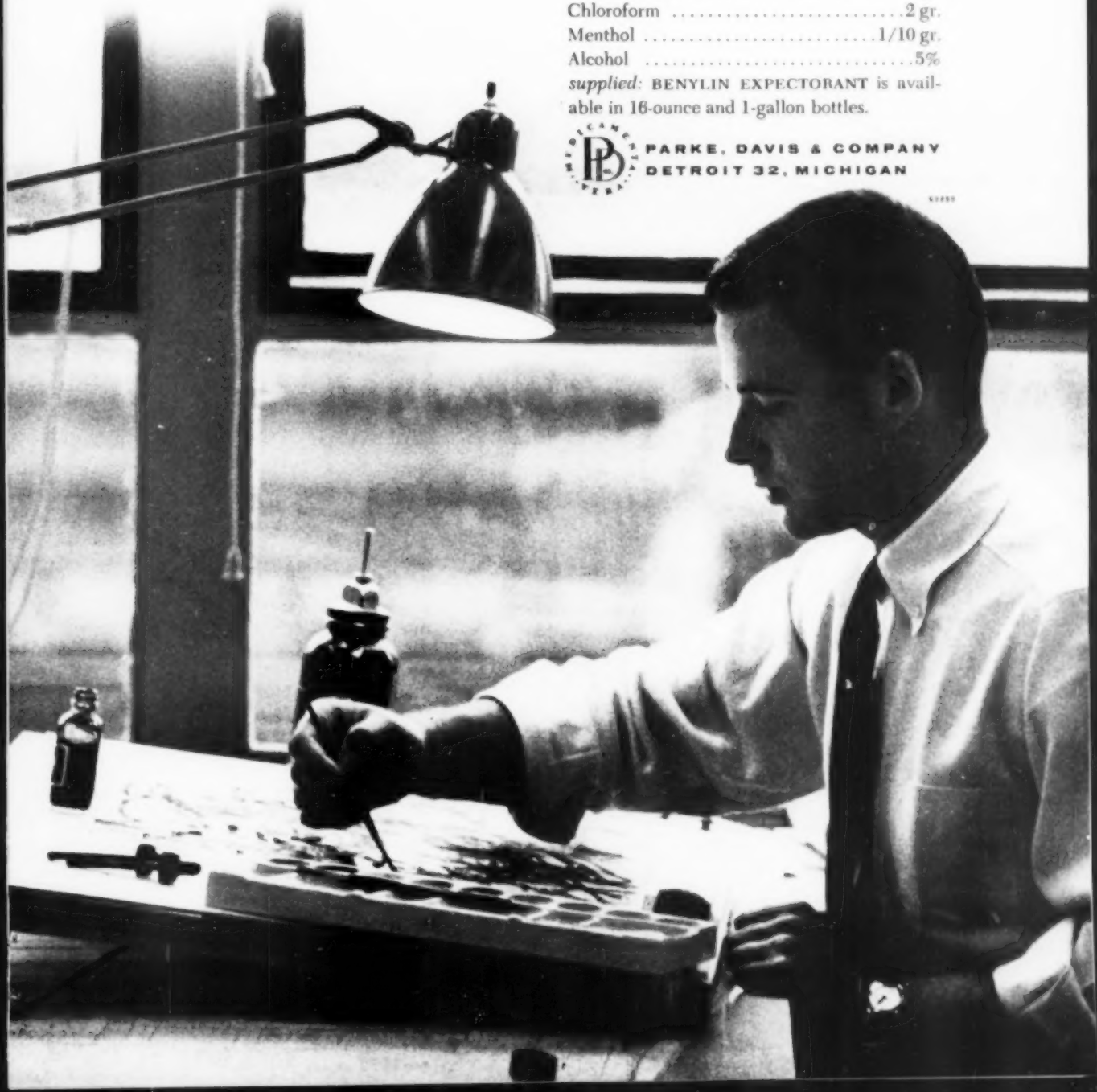
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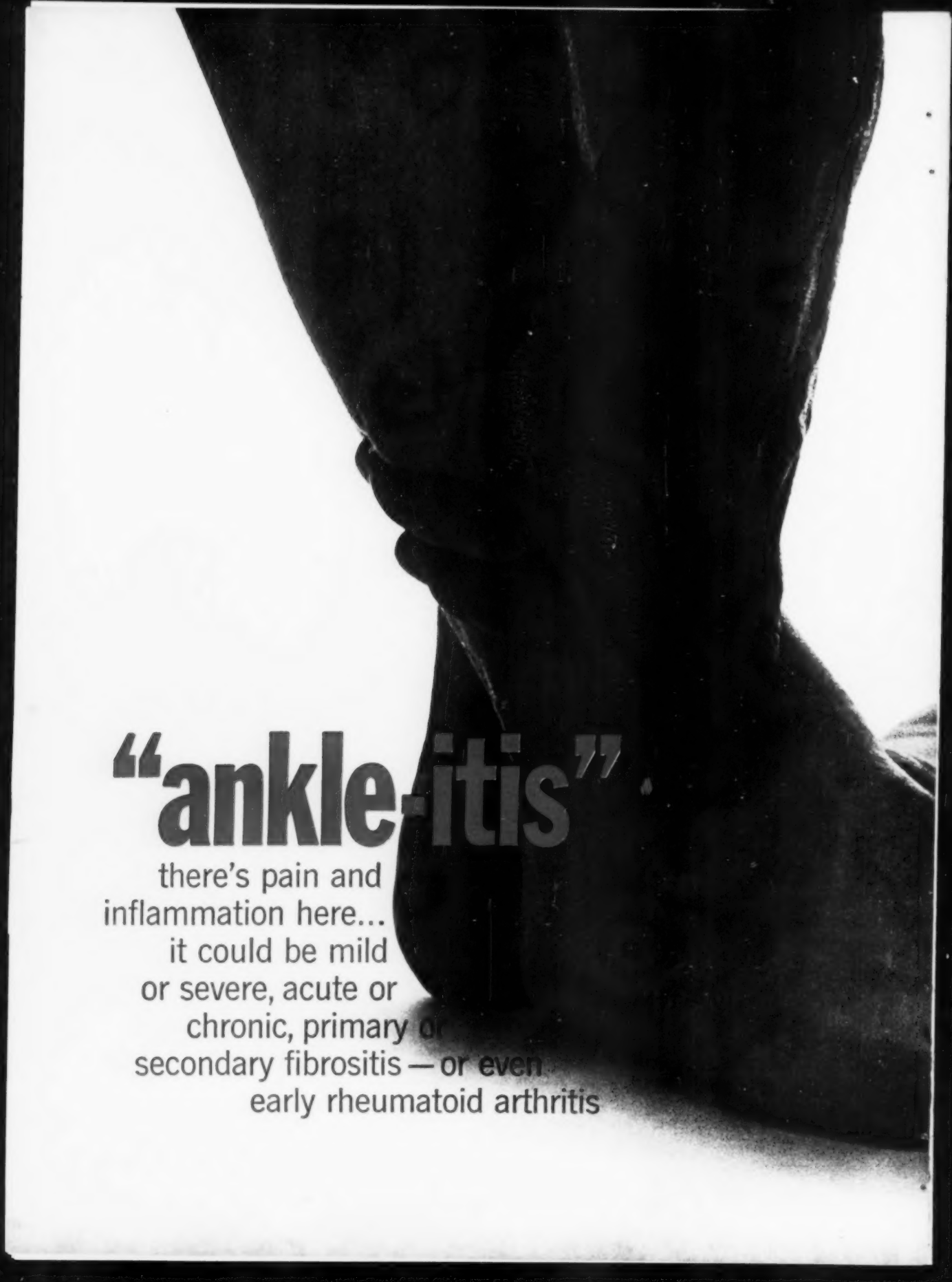
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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days. Such occurrences are well known with erythromycin (Wise et al. 1955, Thomson et al. 1956); and Hobson (1954) and Garrod and Waterworth (1956) have shown that staphylococci produce strains resistant to erythromycin more readily than they produce strains resistant to any other antibiotic except streptomycin.

In both wards an occasional variant resistant to chloramphenicol was found. This finding is unexplained, and there is no known correlation between resistance to erythromycin and resistance to chloramphenicol. Since both the infecting strains were resistant to several antibiotics, it is possible that they were highly mutagenic. Chadduck et al. (1954), working with Escherichia coli K. 12, have shown that certain strains of this species have mutaior genes, which give them an increased rate of mutation to drug resistance and other characteristics. The same may be true of staphylococci.

Preventive Measures

As long as septic cases are admitted to general wards, hospital cross-infection will continue. The present study shows the importance of superficial skin infections in this respect and confirms the observation of Barber and Burston (1955) that nasal carriers may be relatively unimportant. In both wards numerous strains of Staph. pyogenes were present in the environment, but a newly introduced strain spread round the ward to a much greater degree than any of the strains previously present. It is improbable that all strains of Staph. pyogenes could be excluded from a ward; but if we really face the fact that staphylococcal sepsis is a communicable disease, there is nothing to prevent hospitals from having isolation blocks to deal with this problem.

Meanwhile something, no doubt, can be done by barrier nursing and by treating the bedding. The difficulty of applying the former adequately in a busy general ward is, however, extreme. The danger of blankets as a source of infection can be reduced. Barnard (1952) showed that they were not only sterilized by impregnation with estyl pyridinium bromide ('Fixanol C') but also remained, to some extent, self-disinfecting. Blowers and Wallace (1955) and Frisby (1957) recommended washing the blankets in a non-ionic detergent ('Lissapol') and then soaking with a cationic detergent ('Currasol'). In the present study arquand was the quaternary ammonium compound used.

Finally the whole hospital policy in relation to staphylococci needs reviewing. It would almost certainly be impossible and not necessarily desirable to eliminate the whole genus from the hospital environment. It might be more senible and would certainly be more practicable to select relatively harmless strains. There is much evidence that pathogenic and non-pathogenic staphylococci are variants of a single species, and that white, golden, or even lemon-yellow strains may, under certain rare conditions, arise one from another (Hoffstadt and Youmans 1932, Pinner and Voldrick 1932, Barber 1955). Certainly strains of staphylococci may show all permutations or combinations in relation to the production of pigment and of alpha-lysin, coagulase, and other toxic substances (Barber et al. 1953).

The haphazard and wholesale use of antibiotics in hospitals in the last fifteen years has selected strains of staphylococci which are not only resistant to many of these powerful weapons but also, possibly because they have been freed from competition with lesser breeds, liable to give rise to strains of enhanced virulence (Howe 1954, Beaven and Burry 1956, Barber 1958). A hospital antibiotic policy designed to reverse this process, in association with the exclusion of multiple-resistant strains from the general wards, might have far-reaching results. It may well be that the best approach to the problem of staphylococcal cross-infection is to learn how to select staphylococci of lower infectivity and virulence and to render human beings more resistant to their toxic products. In the New Jerusalem, when the lion

Continued on page 180a



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lies down with the lamb, is it too much to hope that man will have learnt to live at peace with the staphylococcus?"

MARY BARBER AND A. A. C. DUTTON
The Lancet

Haemophilia-Like States in Girls

"The occurrence of haemophilia in the female can be accepted because a sufficient number of cases have been published which meet the diagnostic requirements: clinical history, specific laboratory findings, and correct hereditary pattern.

The cases reported by Israëls et al. (1951) and Pola and Svojitka (1957) are typical.

The patient of Taylor and Biggs (1957), who comes from a haemophilic family and has a bleeder brother, has a normal son. This makes it improbable that both X chromosomes are defective.

Fantl and Margolis (1955) reported a female, with mild haemophilia, who has a son who bleeds very easily, his blood closely resembling that of haemophilia.

The patient of Choremis et al. (1956), a little girl, likewise appears to be a true haemophiliac. Unfortunately, the family history was unobtainable.

Some cases—e.g., that reported by Beller and Koch (1956)—do not correspond to true haemophilia clinically: mucosal bleeding is rather uncommon in haemophilia.

Hardisty (1957) has reported in a woman a bleeding condition that appears to be Christmas disease.

Case 1 is particularly interesting because her blood is indistinguishable from that of true haemophilia by all known tests. It is reasonably certain that the condition is congenital, because she had no serious illness before the discovery of her tendency to bleed. If her disease is true haemophilia, the haemophilic genes of both X chromosomes must be present. Since both her parents are clinically normal, the cause of her condition is best explained by mutation. This, to be sure, is speculation, and the proof can only be established by her offspring. All her sons should be bleeders and all her daughters carriers, if this assumption is correct.

Case 2 particularly illustrates the need for careful laboratory studies to establish a definitive diagnosis. Without an accurately performed prothrombin-time test and thromboplastin-generation test one could easily mistake her disease and diagnose it as true haemophilia, especially since her blood does not always effectively correct true haemophilic blood. The prolonged prothrombin-time is not caused by lack of prothrombin or of labile factor. A serum factor from normal blood corrects both the prothrombin-consumption defect and the prothrombin time. Case 2 corresponds in most respects to that described by Hougie et al. (1957). Their patient had a much longer prothrombin time but otherwise closely resembles our case. They named the condition the Stuart clotting defect.' The condition resembles that of the patient described by Telfer et al. (1956).

Cases 3 and 4 correspond to that first observed by Alexander and Goldstein (1953), Larrieu and Soulier (1953), and Quick and Hussey (1953b). The characteristic findings are the prolonged bleeding-time, the impaired consumption of prothrombin, and the poor generation of thromboplastin, with the defect in the plasma. Singer and Ramot (1956) suggest the term 'pseudohaemophilia B' for this disease. 'Pseudohaemophilia A' is the name given to von Willebrand's disease, which is likewise characterized by a prolonged bleeding-time but is transmitted as a dominant. Pseudohaemophilia B appears to be inherited as a recessive, only the homozygote being a bleeder.

The importance of bleeding in females is emphasized by the increased number of such patients reported recently. The desirability of standardization of the diagnostic tests to differentiate the various hereditary bleeding-di-

Continued on page 186a

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1. Mulinos, M. G., and Glass, G. B. J.: Gastroenterology 24: 385-393 (May-Aug.) 1953.

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seases in women is obvious because it is a primary requirement for their classification. A bleeding-disease in a girl is especially serious because little is known about the haemostatic control of menstrual bleeding. Nearly all the cases of women with haemophilia-like conditions were over twenty years old when they were first studied, suggesting that their bleeding was relatively mild. Some of these patients —e.g., the one studied by Pola and Svojitka (1957)—have normal menstruation. A patient with hyperheparinaemia, whom we (Quick and Hussey, 1953) studied for several years, also has no abnormal menstrual bleeding, although her clotting-time is consistently about an hour. The management of a bleeder at the outset of the first menstruation is extremely difficult because so little information has been published and the effect of a coagulation defect on uterine is unpredictable."

ARMAND J. QUICK and
CLARA V. HUSSEY
The Lancet

Phenylbutazone in the Treatment of Temporal Arteritis

"The general symptoms of temporal arteritis are loss of weight, diffuse rheumatic pain, and fever; and they are associated with leucocytosis, increased E.S.R., and increased plasma-fibrinogen. The electrophoretic pattern of the serum is abnormal, with a strikingly increased α_2 fraction. These changes often precede the local symptoms and persist after the latter have disappeared. But it is the temporal symptoms that usually suggest giant-cell arteritis, which might otherwise hardly be suspected. In this respect the local symptoms resemble the butterfly erythema in desseminated lupus erythematosus, or the cutaneous sarcoid in generalized sarcoidosis. Hence the importance of a careful examination of the temples in elderly people with puzzling symptoms.

Phenylbutazone has not been used before for temporal arteritis. We found it to be effective; both the fever and the pain disappeared as rapidly as when steroids are used, and there seems to be little risk of relapse. The response to phenylbutazone resembles that of superficial thrombophlebitis (Stein and Rose 1954) though it is more rapid and more permanent.

Phlebitis in the temporal vein has been reported by Crosby and Wadsworth 1948, and by Peet 1951. Eckerström (1946) described 3 cases in which only the vein was believed to be affected. In 1 of these histological examination of the venous wall showed changes resembling those in affected arteries though the accompanying artery was unfortunately not examined histologically. Case 8 here bears some resemblance to this case in that thrombophlebitis was the only finding at necropsy. The situation might have been similar in case 6, where the course of the disease was short.

In temporal arteritis a vein is seldom removed for microscopic examination. But without biopsy it is not always easy to decide whether tenderness to palpation of the temple is due to a granuloma in the wall of the artery or to phlebitis in the adjacent vein. Swelling and reddening of the skin in the temporal region are typical signs of thrombophlebitis. Case 4 illustrates that an inflammatory process in the artery does not always produce temporal pain. Crosby and Wadsworth (1948) have shown that the inflammation spreads from the artery to adjacent veins. Because of their superficial course and the underlying hard bone, the temporal vessels are also particularly susceptible to trauma, which might favor phlebitis. One is tempted to assume that the phlebitis is responsible for the clinical symptoms of temporal arteritis. Should this assumption be correct, the response to phenylbutazone would be comparable to that seen in superficial thrombophlebitis elsewhere.

The agonizing headache of temporal arteritis has been ascribed to compression of nerves running through tissue in which there are granulomatous changes. But the headache may be of vascular origin. The role played by the

Continued on page 188a



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10-12 hours with a single **oral** dose with remarkable lack of side effects[1,2]

Entirely new long acting oral nasal decongestant
chemically and physically different—utilizing the DURABOND* principle[2,3]

Longest relief of any medication
comfort all day or all night with a single oral dose[1]

Remarkable lack of side effects
"...of 311 patients, incidence of side effects was only 2.2 per cent. Evidence of sedation was (only) 1.2 per cent."[4]

Stops excessive post-nasal drip
and resulting night cough, irritation, secondary infection

***DURABOND**

A new principle in medicine that controls absorption rather than dissolution or release, independently of gastrointestinal motility or specific pH. Maintains constant rather than sporadic blood levels, hence no over-release or under-release. This gives smooth therapeutic results, rare incidence of side effects. Works even in liquid form for children (Rynatan Suspension).

*Neisler Exclusive, Patent Pending

RYNATAN TABULES...
For adults and older children

RYNATAN SUSPENSION...
For children (as young as 6 months)

Rynatan contains:	Each tabule	5 cc. suspension
Phenylephrine tannate	25.0 mg.	5.0 mg.
Prophenpyridamine tannate	37.5 mg.	12.5 mg.
Pyrilamine tannate	37.5 mg.	12.5 mg.

Dose: q. 12 h.: Tabules 1-2. Suspension: Children under 6 yrs. ½-1 tsp.; over six 2-3 tsp.



1. Lawler, E. G. and Limperis, N.M.: Clin. Med. (Dec.) 1958. 2. Medical Science, 3:376-377 (Mar. 25) 1958. 3. Cavallito, C. J. and Jewell, R.: J. Am. Pharm. A. (Scient. Ed.) 47:165-168, 1958. 4. Antibiotic Med. & Clin. Therapy 5:579-581 (Sect.) 1958.

Samples and literature on request

Neisler **IRWIN, NEISLER & CO.,** DECATUR, ILL.

Available in Canada through Lakeside Laboratories (Canada) Ltd., Toronto

temporal vessels as a cause of headache is illustrated in migraine. Edema, as seen in temporal arteritis, may also contribute to pain if it is localized to the tight connective tissue of the galea. The known antiphlogistic property of phenylbutazone might counteract this inflammatory edema and thereby relieve the pain.

The fact that phenylbutazone produces no demonstrable effect on the increased E.S.R. or on the electrophoretic serum pattern indicates that treatment is purely symptomatic. In view of the striking effect of the drug on thrombophlebitis, however, a possible direct action on the inflammatory process in the vessel wall can hardly be denied. In cases with pronounced general symptoms, it therefore seems advisable to continue treatment longer in the hope that healing might be promoted.

Obscure cranial symptoms are often encountered within the age-group in which temporal arteritis is most common. When there are general symptoms, the possibility of cancer must also be considered. In such cases the prompt effect of phenylbutazone may be of differential-diagnostic value, as in 1 of the cases reported above."

S. E. BJORKMAN
The Lancet

Importance of Intravenous Injection of Diphtheria Antiserum

"An investigation is described which clearly brought out the advantages of the intravenous injection of antitoxic serum in patients suspected of diphtheria, compared with the intramuscular injection still commonly used.

The intravenously injected antitoxin immediately brings the patient's serum 'up to titre,' whereas absorption of the intramuscularly injected antitoxin is slow, usually not being com-

Continued on page 190a



Available in Canada through Lakeside Laboratories (Canada) Ltd., Toronto

IN OFFICE SURGERY

ELECTIVE AND TRAUMATIC

use XYLOCAINE *first...*
as a local anesthetic
or a topical anesthetic

SWAB SPRAY INFILTRATION NERVE BLOCK



Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

XYLOCAINE® (brand of lidocaine*) **HCl SOLUTION**

Astra Pharmaceutical Products, Inc., Worcester 6, Mass., U.S.A.

PDR

*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.

plete until after about 4 days, and sometimes 6 days.

Intravenously injected antitoxin is not excreted more rapidly than intramuscularly injected antitoxin.

Very shortly after the intravenous injection of antitoxin a small portion of it is excreted through the salivary glands into the saliva, which it renders atoxic. Consequently from this moment no more toxin will be absorbed from the saliva through the inflamed and damaged tonsils and wall of the pharynx.

The results of experiments on guinea pigs indicate that patients intravenously injected with antidiphtheritic serum may be expected to show fewer lesions of the heart (myocarditis and fatty degeneration), fewer post-diphtheritic paralyses, and a lower mortality than patients intramuscularly injected with antiserum.

With due observance of the necessary precautions—e.g., a skin test for hypersensitivity (which must be negative) — diphtheria antitoxin should be injected not intramuscularly but intravenously whenever such an injection is required, even in mild cases of diphtheria."

BY A. TASMAN, J. E. MINKENHOF, H. H. VINK, A. C. BRANDWIJK, L. SMITH

The Lancet

Salicylate Anemia

"Severe 'iron-deficiency' anemia, of uncertain cause despite extensive investigation, had required continuous treatment with iron for 5 years and 10 years respectively in a man of 47 and a woman of 40. Laparotomy had been advocated in both patients, and total hysterectomy had failed to influence the anemia in the woman.

Habitually heavy consumption of salicylate compounds for headaches had coincided with the onset and subsequent course of the anemia in both patients.

Occult bleeding from the gastrointestinal tract was demonstrated during controlled periods of salicylate medication. After salicylate consumption had been greatly reduced, anemia did not recur during follow-up periods of ten and seven months without iron therapy.

Salicylate consumption is therefore put forward as a possible cause of anemia."

BY W. H. J. SUMMERSKILL AND A. S. ALVEREZ

The Lancet

Pacatal Used in Nursing Homes

Reports on the use of Pacatal caused the author to evaluate its effectiveness when used in a geriatric nursing home. Pacatal, a phenothiazine derivative, that has been used by numerous investigators in the United States, Canada, and Europe has been believed to produce a wide variety of effects which collectively inhibit and stabilize the central and peripheral regulating mechanism of the autonomic nervous system. The drug appears to bring about: (1) sedation without hypnosis, (2) potentiation of narcotics, hypnotics and analgesics, and (3) equal and appreciable influence on the sympathetic and parasympathetic nervous systems so that proper balance is maintained. Thirty-seven patients with behavior problems in two Los Angeles sanitariums were given Pacatal in place of the barbiturate they had been taking. Pacatal was administered in three 25-mgms. doses daily for three weeks. During was added. In some cases an additional dose the fourth week a fourth dose of 25 mgms. was given, but in no instance the total dosage exceeded 125 mgms. daily. Satisfactory progress was made by 34 percent of the patients as based on recorded behavior before and after the Pacatal therapy. No significant changes were noted during the first week of treatment. Maximum improvement occurred with a total daily dose of Pacatal of 100 mgms. In a few patients, a change in dosage schedule resulted in definite improvement. In general, improvement in behavior and mood was frequently followed by improvement in bowel and uri-

Continued on page 194a



The check is the only price

this ulcer patient pays

There are times, of course, when ulcer patients cannot be permitted a full diet. In general the fewer those times the better.

PEPULCIN permits your patients a full, normal diet, provides antisecretory, antacid and antihemorrhagic activity. It requires only a few doses daily. Renal, hepatic, or hematological dysfunction has not been reported.

Comprehensive literature available

PEPULCIN®

Scopolamine Methyl Nitrate, Aluminum Hydroxide, Magnesium Hydroxide, and Ascorbic Acid

SUPPLIED: Tablets, bottles of 100.

IVC IVES-CAMERON COMPANY Philadelphia 1, Pa.

Exactly how does new Halodrin* restore the "premenopausal prime" in postmenopausal women?

Webster defines "prime" as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she "feels bad."

You can't make her 35 again—but the odds are good that you can make her **feel** like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the "premenopausal prime."

The normal premenopausal woman **excretes** estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the "premenopausal prime" in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

Oral ethinyl estradiol is about 2 to $2\frac{1}{2}$ times as potent as **parenteral** estradiol. Therefore, **the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.**

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the "premenopausal prime."

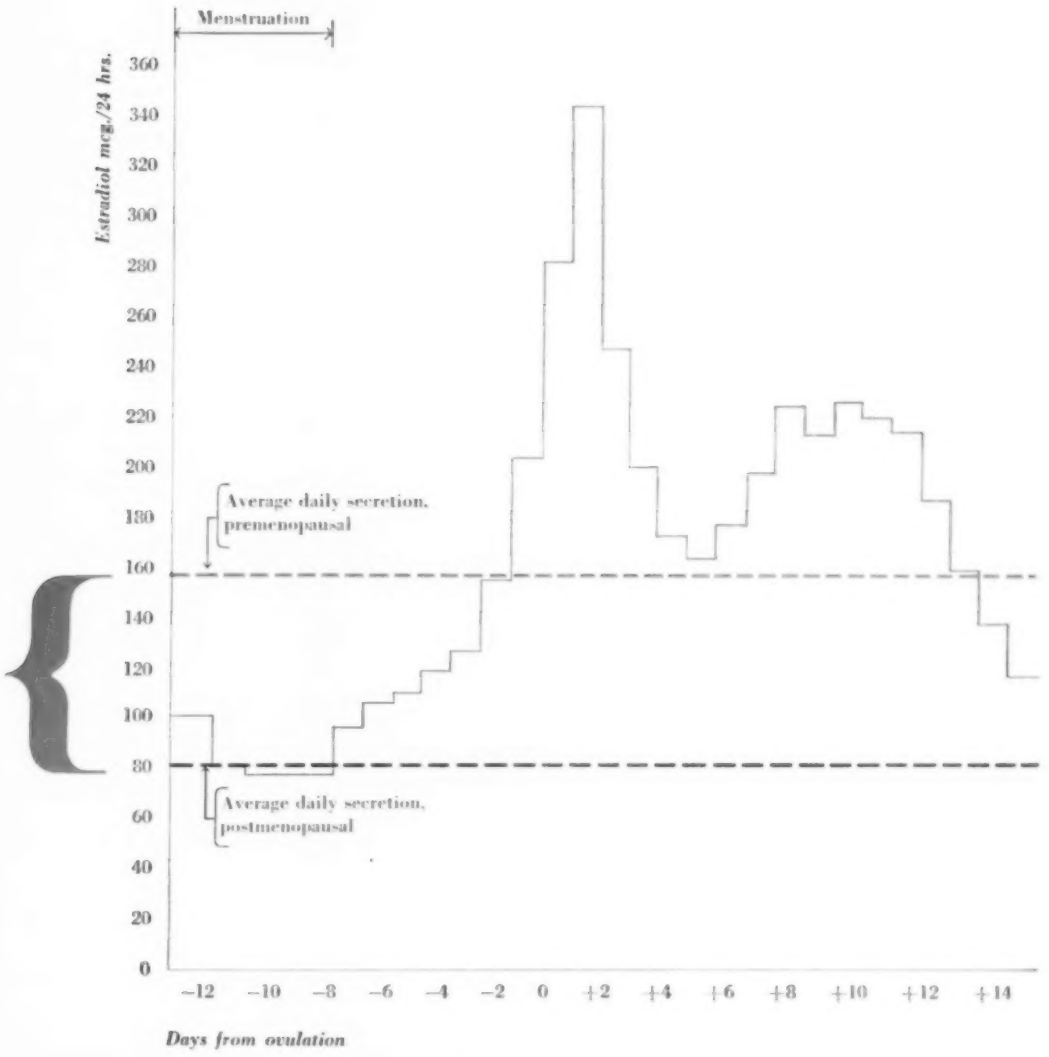
Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to "buffer" the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

*TRADEMARK, REG. U. S. PAT. OFF.

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Endogenous estrogen secretion (mcg./24 hours) (calculated from average 24-hour urinary excretion of estradiol, estrone, and estriol)



nary function. Three of 19 patients with urinary incontinence developed control. The change in the general atmosphere of the home was dramatically demonstrated when a floor nurse, returning to duty after a three-month absence, commented on the calm atmosphere in terms of unmistaken surprise and amazement. With the exception of one case of mild constipation, no side-effects were noted. It would appear that further clinical trial with this drug in disoriented elderly patients is warranted.

A. W. KORNBLUTH, M.D.
Geriatrics

Malignant Effusions Treated with Prednisone

It is estimated that approximately 30 percent of the patients with metastatic malignancy develop significant effusions in the pleural, peritoneal, or pericardial cavities. Rarely, the fluid has the characteristics of a transudate, as in some cases of mediastinal adenopathy, or a high content of fats, as in chylous effusions. Since it is known that the corticosteroids inhibit tuberculous effusions and experimentally induced ascites, it was believed that the steroids might delay the reaccumulation of fluid in malignant effusions if an inflammatory component were present. A dosage of prednisone comparable to that used for tuberculous exudates (10 mgms. three times daily) was given to 26 patients with pleural effusions or ascites secondary to various forms of malignancy. The fluid in all instances had characteristics resembling those of exudate, and in 24 patients malignant cells were found in the fluid. After approximately four weeks, when a maximum effect was believed to have been obtained, the amount of prednisone was reduced to a maintenance dose of about 15 mgms. daily. Patients were treated for periods up to eleven months. Improvement, however, when it occurred was evident in less than three weeks. Results of treatment were considered good when there was no need for additional paracentesis and the volume of fluid removed was decreased by more than 50 percent. In 14 of the 26 patients in whom the results were recorded as good, it was possible to control the reaccumulation of fluid during the administration of prednisone for periods up to eleven months. In four patients, the results were fair. In one patient, a reactivation of pyelitis occurred, and oral moniliasis occurred in two others. The author believes that apparently, the results of steroid therapy in neoplastic effusions do not depend exclusively on antiinflammatory action. Favorable results have been reported in which the inflammatory factor was not present. The action of the steroids seemingly is the result of multiple mechanisms, such as neutralization of exudate at the site of the inflammatory response; decrease in capillary permeability; changes in the electrolyte and protein balance; improvement of hematopoiesis, and possibly others.

JORGE FRANCO, M.D., et al.
Journal of the American Medical Association

The Preoperative Use of Meprobamate

The author, impressed with the postoperative use of meprobamate (Miltown) in postoperative cases, decided to try it for patients about to be operated on. Usually the patient receives no medication prior to entering the hospital or immediately following admission, and it is during this interval that he suffers from fear and worry, a circumstance particularly true in the geriatric patients. In a group of 56 patients, the administration of Miltown was begun one week prior to the surgical procedure. The types of operation were hemorrhoidectomy, hysterectomy, gastrectomy, mastectomy, cholecystectomy, herniorrhaphy, and bowel resection. Four-hundred-milligram tablets were used; one tablet being taken at meal time. Common complaints were of nervousness during the day, and insomnia at night.

Continued on page 198a



when your patients tell you:
"I can't sleep," your
reliable, conservative answer is

NOCTEC

NOCTEC

Squibb Chloral Hydrate

GENERAL PRACTICE "The general practitioner likes it . . . can be given to patients of all ages and physical status"

CARDIOLOGY "patients with cardiac disease . . . no proof that it is deleterious to the heart"

DERMATOLOGY "frequently the favorite of the dermatologist . . . skin reactions from it are uncommon"

PSYCHIATRY "The psychiatrist often finds it the agent of choice . . . much less likely to produce mental excitement"

Current Concepts in Therapy: Sedative-Hypnotic Drugs II. Chloral Hydrate. New England J. Med. 253: 286 (Oct. 11) 1955.

Adults: 1 or 2 7½ gr. capsules or 1 or 2 teaspoonfuls of Noctec Solution 15 to 30 minutes before bedtime.

Children: 1 or 2 3¾ gr. capsules or ¼ to 1 teaspoonful of Noctec Solution 15 to 30 minutes before bedtime.

Supply: 7½ and 3¾ gr. capsules, bottles of 100. Solution, 7½ gr. per 5 cc. teaspoonful, bottles of 1 pint.

SQUIBB *Squibb Quality—the Priceless Ingredient*



for the common cold...

NEW MADRICIDIN

provides in each capsule

MADRIBON 125 mg

a low-dosage sulfonamide... to help prevent the secondary bacterial infections which may complicate the common cold

N-ACETYL-P-AMINOPHENOL 120 mg

an analgesic-antipyretic—considered the active metabolite of acetophenetidin... to reduce fever and to relieve headache, myalgia and other discomforts associated with acute respiratory disorders

THEPHORIN TARTRATE 10 mg

an antihistamine with low incidence of side effects... to relieve the allergy-like congestion, sneezing and lacrimation which often accompany respiratory infections

CAFFEINE 30 mg

a direct-acting physiological stimulant... to allay drowsiness and fatigue and to help combat the "dragged out" feeling of the patient with a common cold



prompt palliative effect **plus** defense against secondary invaders

DOSAGE: *adults*—first day, 2 capsules q.i.d.; 1 capsule q.i.d. thereafter.
children—first day, 2 capsules per 20 lbs body weight; 1 capsule per 20 lbs body weight daily thereafter—given in single or divided doses.

Continue therapy for 5 to 7 days or until patient is asymptomatic for at least 48 hours.

Caution: The usual precautions in sulfonamide therapy should be observed, including maintenance of adequate fluid intake. If toxic reactions or blood dyscrasias occur, use of the drug should be discontinued.

MADRIBON®—2,4-dimethoxy-6-sulfanilamido-1,3-diazine
MADRICIDIN®
THEPHORIN® Tartrate—brand of phenindamine tartrate
ROCHE®

ROCHE LABORATORIES • *Division of Hoffmann-La Roche Inc* • *Nutley 10* • *N. J.*

The excellent tranquilizing effects and sleep producing qualities were apparent in 53 individuals. In the other three, one patient sustained a skin reaction, and two persons had gastric upset. The patients remained alert, and were not depressed. There were no reports of addiction following cessation of the drug, and no withdrawal symptoms. No euphoria or hallucinations were noted, neither did tolerance to the drug develop. The report concludes that Miltown could be substituted for the usual preoperatively administered barbiturates.

TIMOTHY A. LAMPHIER, M.D.
Maryland State Medical Journal

Aphthous Stomatitis Treated with Lactobacillus Tablets

The condition recognized as aphthous stomatitis is an acute or chronic recurrent ulceration of the oropharyngeal mucosa. The lesions are tender and uncomfortable at best, and may become severe enough to make eating and drinking almost impossible. Occasionally the lesions show the typical labial vesicles of herpes simplex, and may also be difficult to differentiate from thrush or Monilia infections. Associated factors which have been implicated are social drinking, fatigue, menses, upper respiratory infections, poor nutritional status, and antibiotic therapy. The condition frequently recurs if the individual becomes overtired. The article further states that all forms of treatment had been largely ineffective, until a chance observation offered a solution. Several patients who were suffering from diarrhea due to broad-spectrum antibiotics were given Lactobacillus suspension tablets (Lactinex). The medication did not always control the diarrhea, but it was noted that in two patients with severe aphthous stomatitis, the condition was dramatically im-

Continued on page 200a

If they need nutritional support . . .



they deserve

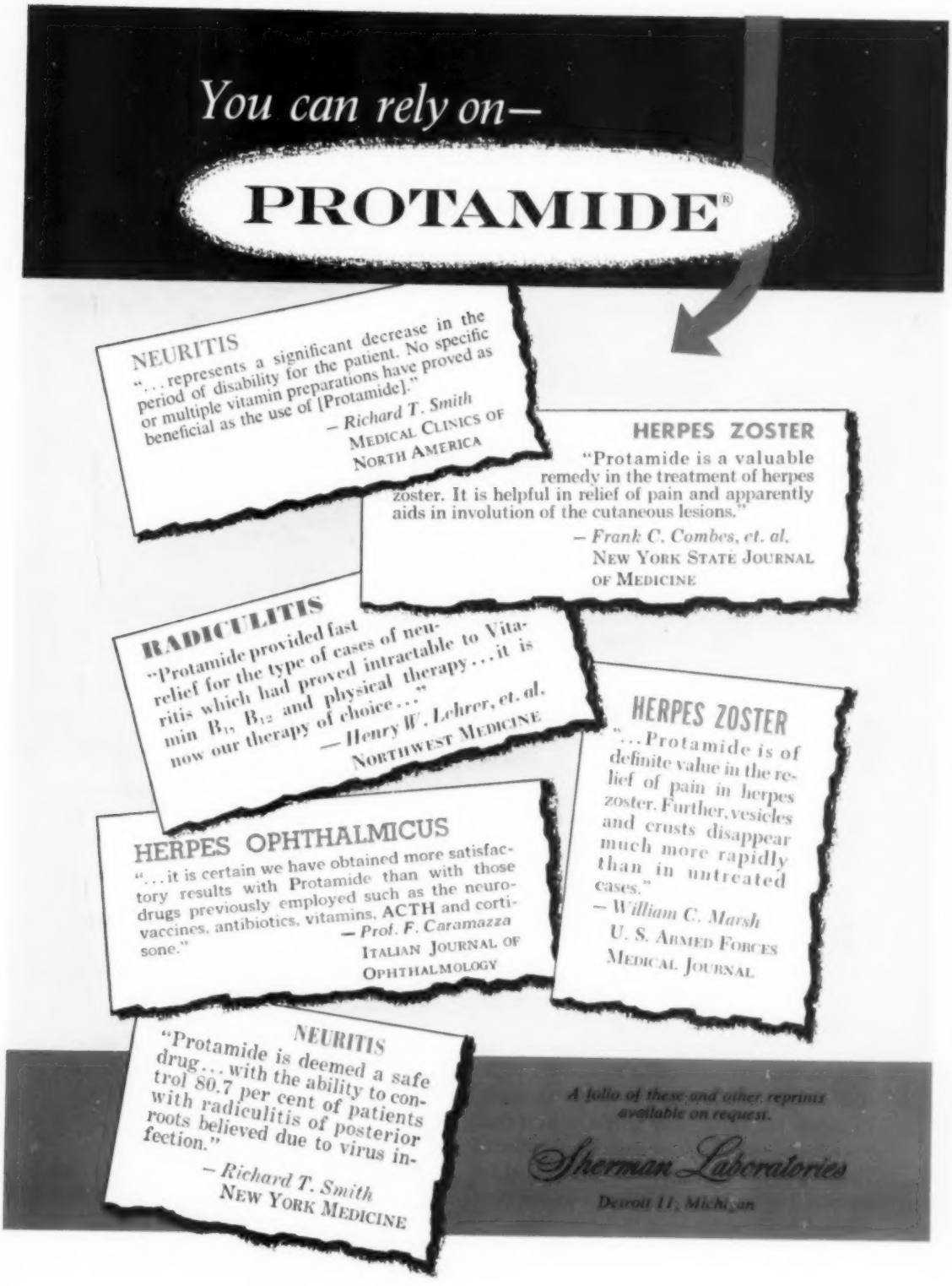
GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle


You can rely on—
PROTAMIDE®
NEURITIS
"... represents a significant decrease in the period of disability for the patient. No specific or multiple vitamin preparations have proved as beneficial as the use of [Protamide]."
— Richard T. Smith
MEDICAL CLINICS OF NORTH AMERICA
HERPES ZOSTER
"Protamide is a valuable remedy in the treatment of herpes zoster. It is helpful in relief of pain and apparently aids in involution of the cutaneous lesions."
— Frank C. Combes, et. al.
NEW YORK STATE JOURNAL OF MEDICINE
RADICULITIS
"Protamide provided fast relief for the type of cases of neuritis which had proved intractable to Vitamin B_1, B_{12} and physical therapy ... it is now our therapy of choice ..."
— Henry W. Lehrer, et. al.
NORTHWEST MEDICINE
HERPES OPHTHALMICUS
"... it is certain we have obtained more satisfactory results with Protamide than with those drugs previously employed such as the neurovaccines, antibiotics, vitamins, ACTH and cortisone."
— Prof. F. Caramazza
ITALIAN JOURNAL OF OPHTHALMOLOGY
HERPES ZOSTER
"... Protamide is of definite value in the relief of pain in herpes zoster. Further, vesicles and crusts disappear much more rapidly than in untreated cases."
— William C. Marsh
U. S. ARMED FORCES MEDICAL JOURNAL
NEURITIS
"Protamide is deemed a safe drug ... with the ability to control 80.7 per cent of patients with radiculitis of posterior roots believed due to virus infection."
— Richard T. Smith
NEW YORK MEDICINE
A folio of these and other reprints available on request.
Sherman Laboratories
Detroit 11, Michigan

proved. Since then, a small group of patients with aphthous stomatitis have been given Lactobacillus suspension tablets; the dosage being two tablets four time a day dissolved in the mouth with milk. In all cases, partial or complete healing of the lesions occurred in two days. If recurrence developed, the medication had to be continued. No undesirable side-effects have been noted.

DON J. WEEKES, M.D.
New York State Journal of Medicine

Evaluation of Ristocetin

Ristocetin (Spontin) is recognized as an antibiotic which exerts a bactericidal effect against a wide range of gram-positive and gram-negative microorganisms. It is poorly absorbed from the intestinal tract and is, therefore, administered intravenously. Its successful use has been reported in the treatment of pneumonia, endocarditis, and pyemic states caused by staphylococci, pneumococci and enterococci, especially after these organisms have developed resistance to other antibiotics. The author reports the use of Ristocetin in the treatment of three selected cases of staphylococcal infection, and a fourth case of mixed infection. Three of the patients were moribund at the time of commencing therapy. In all four cases, Ristocetin could be looked upon as a life-saving measure in controlling acute bacterial septicemic shock. The dosage did not exceed 50 mgms./kg. In three cases, no toxic reactions were encountered, and in the fourth case in which the patient had received a total of 30 G. over an eleven-day period, an erythematous eruption faded in about a week after cessation of therapy. The dosage averaged 25 mgms. per kg. of body weight, a level that was effective and free from serious toxic effects. The report further states that possible risks associated with the use of Ristocetin are outweighed by its value as a life-saving remedy.

C. E. VAN ROOYEN, M.D., et al.
Canadian Medical Assn. Journal

Trypsin in Tuberculous Lymphadenitis and Fistulae

The author reports the results of his use of trypsin in sesame oil (Parenzyme) in the treatment of tuberculous lymphadenitis and tuberculous fistulae. Follow-up periods varied from eight to 16 months, and included histopathologic evaluation of the results of treatment. Only patients were included in the test whose conditions were of unequivocal tuberculous etiology, and had failed to respond to other prolonged methods of treatment. The trypsin was administered intramuscularly in combination with one or more antituberculous drugs. Trypsin, 5 mg. was given daily in two divided doses for six weeks, simultaneously with uninterrupted antibiotics daily for six months. At the termination of the six-month period, an additional course of trypsin of three weeks' duration was given. No side-effects were noted. In all cases, appropriate tests were made prior to, during, and following the course of therapy. A clinical cure was effected within three to six weeks. Clinical healing was evidenced by a marked decrease in the size of nodes, disappearance of nodes, closure of fistulae, and scar formation. Bone tuberculosis healed more rapidly. From a histo-pathologic point of view, all biopsies showed either marked improvement of the histological picture or evidence of complete healing. The rich deposition of collagen in the healed lesions was noteworthy. Biopsied nodes at the end of treatment were negative. This type of therapy appears to be the one of choice for tuberculous lymphadenitis and tuberculous fistulae.

CHAIM RAPOPORT, M.D.
Diseases of the Chest

Promazine Evaluated

Chlorpromazine is recognized as the first of the ataraxics, and has become the standard against which more recent modifications of the phenothiazines are evaluated. Since the use of one of these, promazine (Sparine), has



ANNOUNCING

the first "wide range" antihypertensive

MILD MODERATE SEVERE

DIUPRES

DIURIL® WITH RESERPINE

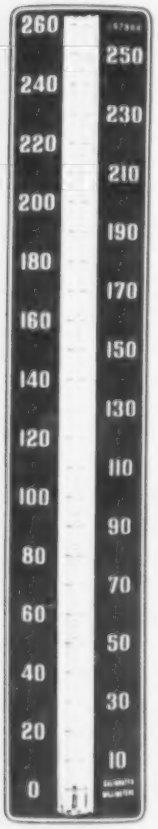
more hypertensives can be better controlled
with **DIUPRES** than with any other agent
... with greater simplicity and convenience

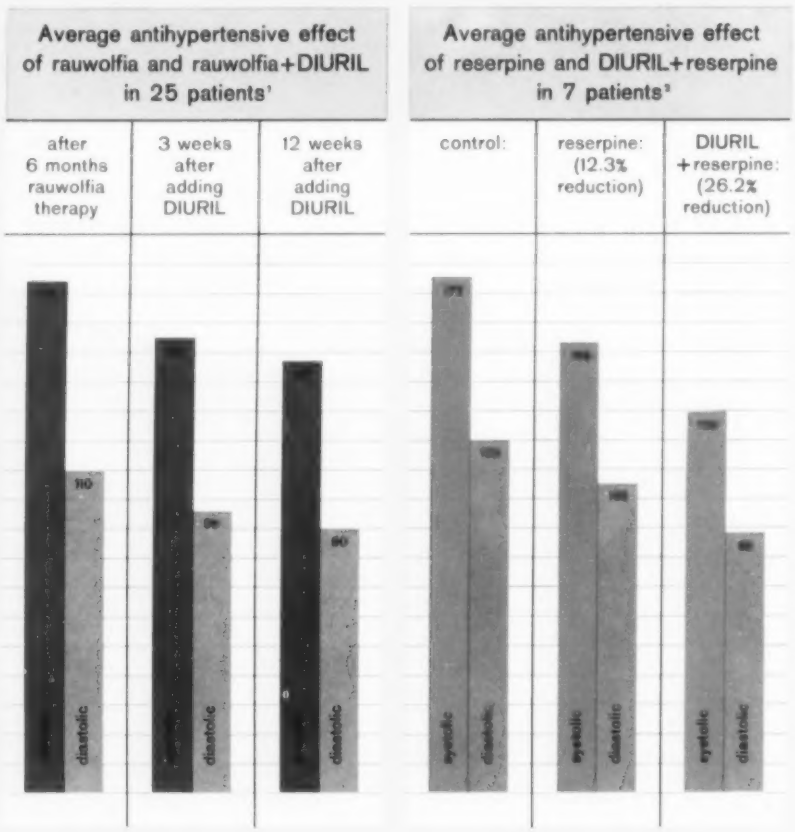
a logical alliance of two antihypertensives
you know and trust provides

increased effectiveness, decreased side effects

potentiated effect

DIUPRES produces an effect greater than either DIURIL or reserpine alone. It is effective in many patients who respond inadequately or not at all to either DIURIL or reserpine.





DIUPRES

DIURIL® WITH RESERPINE

effective therapy for most patients

DIUPRES by itself usually provides effective therapy for a majority of patients with mild or moderate hypertension, and even for many patients with severe hypertension. Many patients now treated with other agents which frequently cause distressing side effects can be adequately managed with well tolerated DIUPRES.

provides basic therapy

Should other drugs need to be added to DIUPRES, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.

rapid onset of effect

The antihypertensive action of DIUPRES is rapidly evident. (Considerable time may elapse before the antihypertensive effect of reserpine alone is observed.)

fewer and less severe side effects

DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

often obviates weight gain

DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

diet more palatable

With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

convenient, controlled dosage

Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

economical

DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:
DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

Precautions:
The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

Recommended dosage range:
DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.
If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.

"
Diupres-500

DIUPRES-500

500 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

"
Diupres-250

DIUPRES-250

250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

the first "wide range" antihypertensive

DIUPRES

DIURIL® WITH RESERPINE

1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

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been infrequently mentioned in the literature especially in connection with schizophrenia, the authors conducted a study of the drug. The patients were started on 100 mgms. of Sparine four times daily by mouth. The dosage was increased by 400 mgms. daily in divided amounts until beginning signs of clinical remission were noted, or limit of tolerance was reached. The maximum therapeutic dose was maintained for seven to ten days, and then reduced by 400 mgms. every one or two days to a maintenance dose of 100 mgms. four times daily. The average maximum dose was 2,000 mgms. daily. Patients failing to respond were treated with alternative methods. Those who were discharged were maintained on 400 mgms. for an indefinite period in the outpatient clinic. As a result of treatment, nine schizophrenic patients out of 26 were satisfactorily improved; five were improved symptomatically without a major change in the course of the illness, and the remaining twelve failed to respond. The authors have formed the opinion that in doses of less than 400 mgms. daily, promazine is a useful ataractic agent with about one-third of the potency of chlorpromazine.

V. JOHN KINROSS-WRIGHT, M.D. AND
S. BERGEN MORRISON, M.D.
Journal of Clinical & Experimental Psychopathology

Rheumatic Disease and Coincidental Essential Hypertension Treated with Phenylbutazone

A significant number of patients seen in arthritis clinics have coincidental essential hypertension. They are usually elderly individuals being treated for osteoarthritis, the rheumatic disease most frequent in an older age group. The authors state that Phenylbutazone (Butazolidin) is one of the few effective drugs for this condition, but its benefits are frequently denied because of the fear of sodium retention. The authors conducted an investigation in order to determine to what extent phenylbutazone could be successfully employed in these cases. Phenylbutazone was administered in doses of 200 mgms. three times daily after meals for five to seven consecutive days, and infrequently for 14 days. The drug was then discontinued if no improvement was evident, or if relief was obtained. In the latter instances, a second course of treatment was instituted if symptoms recurred, but at a lower dosage level. The intermittent method of administration was followed throughout the study. Some patients were treated for periods up to two years. Of the 54 patients in the group, satisfactory relief of rheumatic symptoms was obtained in two-thirds of them. Blood pressure was not significantly increased, and in no instance was severe enough to require discontinuance of the therapy. No apparent change in cardiac status resulting from the therapy was observed. Side-effects were noted infrequently, and consisted of ankle edema, gastrointestinal distress, leukopenia, and pruritus. In only four instances reactions were considered sufficiently severe to require discontinuance of the drug. It would appear that patients with rheumatic disease and coincidental uncomplicated hypertension can be treated with phenylbutazone without special regard to blood pressure.

JACK ZUCKNER, M.D. et al.
American Journal of the Medical Sciences

The Use of Neosporin for Donor Eyes

The procedures for processing donor eyes are: (1) The eye is taken from the bottle in which it is received and placed in an antibacterial bath. (2) After ten minutes in the bath, the eye is placed in a fresh sterile bottle containing a cotton dental roll saturated with sterile normal saline solution to maintain a moist atmosphere. If suitable for corneal grafting, the eye is sent to the surgeon who will use it. (3) Material for culture is taken from the bottle in which the eye arrived. Though the result of the culture is not known completely before the eye is used, the organism of a positive culture will be identified and the surgeon notified. Also, the contaminating organism is frequently destroyed in the bath. Merthiolate had been the solution of choice, but its efficacy was open to question, and it was decided to try an antibiotic solution. Since Neosporin is known to be effective against a

Continued on following page

wide range of bacteria, the authors decided to test its use. Cultures of Staphylococcus aureus and Pseudomonas aeruginosa were used; the former being most frequently found, and the latter being the most virulent and difficult to control. A total of 70 eyes were processed experimentally. The high degree of efficacy of Neosporin in the weaker dilutions of bacteria emphasized the importance of immediate irrigation of the enucleated eye with sterile normal saline. The author concludes that the results of the tests indicate that Neosporin is an effective antibacterial agent against the two organisms tested, and is more efficacious than Merthiolate.

DANIEL DOCTOR, M.D., et al.
American Journal of Ophthalmology

Mentally Disturbed Patients Treated with Iproniazid

A clinical study was carried out on 11 psychotic women with evidence of severe depression. Their ages ranged from 29 to 60 years, and they had been hospitalized for periods of eight months to seven years. Seven patients were diagnosed as having schizophrenia, three were considered to be "pure depressions," and in one the psychosis was undiagnosed. Iproniazid (Marsilid) was adminstered daily in a dosage of 100 mg. This was later increased to 150 mg. daily. The average duration of medication was three months. As a result of treatment of these patients who had all been on closed wards, one patient went home, three were transferred to open wards, five showed some lessening of the depressive features, and two failed to respond. The patients were interviewed at bi-weekly intervals, and were rated on a modified Malamud-Sands scale on which a high score showed the greatest degree of abnormality. There was an initial rapid decrease in the group score during the first month. In the items of thought processes, there was a shift from obsessive ideas, somatic delusions and dispairing self-blame to illogical thinking, ideas of inference, and shifting of blame. This shift in the type of thinking from the hypochondriacal to the schizoid type is probably an amelioration of depressive features, and a real effect in these patients.

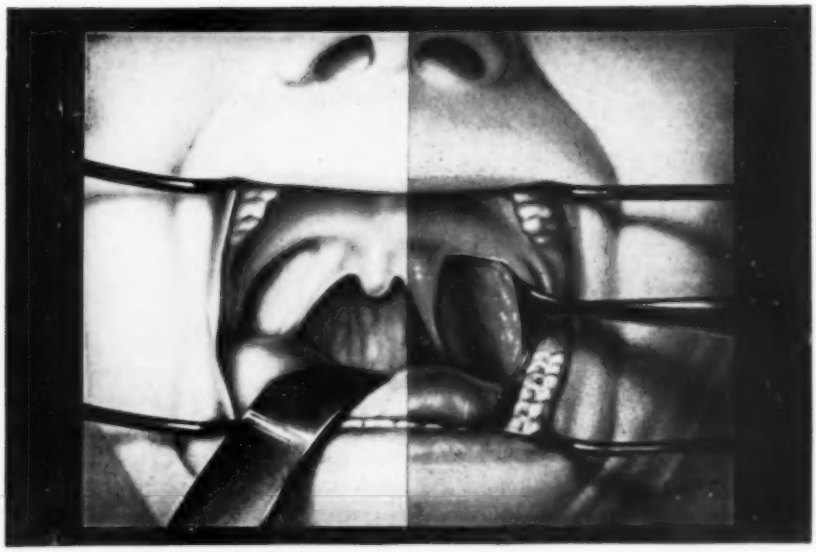
ANTONIO J. DE LIZ FERREIRA, M.D.
and HARRY FREEMAN, M.D.
Diseases of the Nervous System

Triamcinolone, a Topical Steroid

Since the early demonstration of the anti-inflammatory properties of the topical steroids, there has been a constant endeavor to develop newer and more powerful antiinflammatory agents. One of these newer agents is triamcinolone. The present study was undertaken to compare a 0.1 percent solution of triamcinolone acetonide (Kenalog) with a 1.0 percent solution of a comparable preparation. When feasible, the patient applied triamcinolone acetonide to an involved area and the other preparation to a similarly involved contralateral area, otherwise, medications were alternated for the purpose of a comparative study. Fifty patients with various skin disorders were evaluated in the study. Thirty patients used a triamcinolone acetonide lotion, and the others used a cream.

In 64 percent of the tests, the antiinflammatory activity of the triamcinolone acetonide was superior; in 30 percent the results were similar, and in three patients the response to the other agent was better. The author states it must be remembered that certain skin conditions resolve quickly under any anti-inflammatory therapy, a fact to be kept in mind. On the other hand, in chronic therapeutically refractory conditions, the superior antiinflammatory properties of the triamcinolone preparation were clearly apparent. In no case was there any clinical evidence of adverse systemic effects produced by the topical application of triamcinolone acetonide.

J. JOHN GOODMAN, M.D.
Journal of the Florida Medical Assn.



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EACH TROCHE CONTAINS: neomycin 3.5 mg., gramicidin 0.25 mg., and propesin 2.0 mg. IN PACKAGES OF 10 AND 20. One troche chewed for 10-15 min. q. 4h.

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*Granberry, C., and Bestrous, W. P.: The Effect of an Antibiotic Chewing Troche on Post-Tonsillectomy Morbidity, E. E. N. T. Monthly (May) 1957.



NEWS AND NOTES

Selected items of current interest from the fields of medical research and education

Tomahawk Wound

The case of a modern man who suffered a tomahawk injury and was treated by a prehistoric method was reported recently by an Iowa physician.

Writing in *Archives of Internal Medicine*, Dr. Thomas B. Summers, Iowa City, said the head injury was treated by trephination, in which holes are bored in the skull to relieve pressure on the brain. Trephination was practiced extensively by prehistoric South American Indians.

The patient was a 57-year-old man who operated a trailer camp. He was struck on the cheek with a tomahawk after he had stopped a resident of the camp from beating his wife.

About two weeks after being hit, the patient began having pain in both temples. During the next weeks he experienced increasing waves of pain in the head. At times his fingers, tongue, and lips became numb. After a severe attack of pain during which he also could not speak for 30 minutes, he went to the doctor. During examination he experienced numbness and weakness of the left hand and forearm.

Examination indicated that something was creating pressure on the brain, probably a subdural hematoma.

Holes were made on both sides of the skull and liquid removed. He remained in the hospital for nine days. During the next month, he was readmitted to the hospital twice for removal of more fluid from the skull cavity. Seven months later, a further brain operation was performed. Now two years later, he is free of symptoms and is working.

Trephination (also called trepanation) was performed by the Incas to treat wounds from a macana, a wooden weapon edged with sharp flint, and also to allow "evil spirits" to escape from the head. American Indians also performed the operation, apparently to treat tomahawk wounds.

In Peru and Bolivia, where the technique reached its highest development in prehistoric times, at least one skull has been found with signs of five successful trephinations. With rare exceptions, the operation among the Indians was followed by normal healing. The native surgeons apparently had the knowledge of liquids and powders that acted as antiseptics.

Sometime in the distant future an archeologist may come across a skull showing signs of a tomahawk wound and trephination and "speculate upon the anachronism of tomahawk injuries in the 20th century," Dr. Summers said.

Protecting Children from Sex Perverts

Nearly all sex offenders have one characteristic—timidity—that furnishes the most promising way to protect children from them, according to an American Medical Association publication.

Because the sex criminal is usually timid, he

Continued on page 206a

for prevention of

angina attacks

more effective than vasodilators alone

Miltrate*

MILTOWN* + PETN

The long-acting nitrate, PETN, helps maintain normal myocardial metabolism while Miltown relieves fear, anxiety and tension. As a result, Miltrate controls both physical and emotional causes of angina attacks.



Miltrate increases exercise tolerance

- reduces nitroglycerin dependence
- is notably safe for prolonged use
- provides convenient one-tablet dosage

Supplied: Bottles of 50 tablets.
Each tablet contains: 200 mg. Miltown + 10 mg. pentaerythritol tetranitrate.
Usual dosage: 1 or 2 tablets q.i.d. *before meals* and at bedtime. Dosage should be individualized.

References:

1. Shapiro, S.: Observations on the use of meprobamate in cardiovascular disorders. Angiology 8:504, Dec. 1957.
2. Friedlander, H. S.: The role of ataraxics in cardiology. Am. J. Cardiol. 1:395, March 1958.
3. Eskwith, I. S.: The holistic approach to angina pectoris. Am. Heart J. 55:621, April 1958.

WALLACE LABORATORIES, *New Brunswick, N. J.*

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CML-7613-19

will leave a child alone if he is resisted by the child at the outset of an encounter. Seldom will he pursue a girl or boy unless the child goes along with what is suggested.

Thus the child must be taught to resist firmly but politely all invitations from strangers, Beatrice Schapper, New York City, said in *Today's Health*.

Teaching children to avoid situations that play into the hands of sex perverts is "one of the most delicate jobs parents face. But if you remember that sex offenders are generally timid, the job becomes less difficult," the article said.

Children learn without harm other safety rules from their parents, and they can be taught to be cautious with strangers without being told all the horrible things that could happen.

For instance, a parent can combine admonitions such as "Look to the left and then to the right before starting across the street, and don't get in a car with a stranger."

The article listed some rules based on the recommendations of authorities and suggested that families work out their own list, expressing them in the youngster's own words. They are:

• Children should be told to report to parents, teachers, a policeman, storekeeper or other older persons any stranger who:

1. Asks a child to go anywhere with him—to a car, a private home, a movie, or for a walk. The child should say "no" politely and firmly.

2. Tries to talk with a child or touch him or his clothes in a theater. The child should tell an usher.

3. Tries to join children's games outside. Again, the man should be told "no" firmly but politely.

4. Offers candy or toys or a job with pay.

• Children should write down the license number of any stranger's car if the man invites them into the car. If they have no paper or pencil, the number can be scratched with a stick

Continued on page 208a

ASCORBACAINE capsules
FOR THE
RAPID CONTROL OF PRURITUS

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Formula:
Each Ascorbacaine Capsule contains:
Ascorbic Acid . . 150 mg.
Procaine hydrochloride . 250 mg.

Oral Therapy: Easy to administer. May eliminate the need for ointments and bandaging.

Fast Action: Many patients experience almost immediate relief from itching. Effect of a single dose may last from four to six hours.

Indications: For the treatment of pruritic symptoms due to atopic dermatitis, antibiotic reactions, food urticaria, serum sickness, contact dermatitis, drug reactions and other allergic manifestations.

Dosage: One (1) Ascorbacaine Capsule every four (4) hours. Dosage should be adjusted to individual requirements.

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THE HEART DISEASE PATIENT NEEDS RELIEF FROM EMOTIONAL STRESS



ANXIETY INTENSIFIES the physical disorder in heart disease. "The prognosis depends largely on the ability of the physician to control the anxiety factor, as well as the somatic disease."

(Friedlander, H. S.: The role of ataraxics in cardiology. Am. J. Cardiol. 1:395, March 1958.)

TRANQUILIZATION WITH MILTOWN enhances recovery from acute cardiac episodes and makes patients more amenable to necessary limitations of activities.

(Waldman, S. and Pelner, L.: Management of anxiety associated with heart disease. Am. Pract. & Digest Treat. 8:1075, July 1957.)

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in the dirt or with a stone on the sidewalk.

- If children see the same man several times near the playground or along the street and he starts talking to them, they should tell him they want him to met their teacher or parents. If he refuses, he should be reported.
- Children should be told not to play near public toilets, to stay with other children, to avoid playing in alleys or deserted buildings, and to take a pal along to the playground, church, movies, or store.
- Children should not go out alone at night, not even in their own back yard.
- Any change in plans should be discussed with the parents over the telephone.
- Parents should never send a message via a stranger to a child at school or on a playground.
- If a driver attempts to push or pull a child into his car, the child should resist and run as fast as he can to the nearest store or house.

When a child has been involved in an unsavory incident, parents should never punish, shame or frighten the child.

Miss Schapper said to parents: "Keep calm; don't jump to conclusions. By becoming upset, you may do the child more harm than the actual encounter. To react with disgust, fear, or hysteria may color permanently a child's attitude toward sex . . . . The child may need just to talk out his experience."

Specialists report that most incidents, when properly handled, tend to be forgotten in time.

National Foundation Announces New Scholarships

The National Foundation, in an unprecedented effort to help overcome the critical shortage of personnel in the health field, has announced a multimillion-dollar scholarship program designed to assist students of medicine, nursing, physical therapy, occupational therapy, and medical social work. The present program for scholarships and fellowships will be continued but modified and expanded where necessary. The program over the years has added over 7,600 especially trained people to those prepared to work in research and patient care.

The new scholarship program will encourage a younger age group to select a career in one of the professions at a time when they are looking to their future. The National Foundation will offer annual Health Scholarships to help provide four years of college or university education in career preparation for five of the key professions. A minimum of 505 scholarships will be offered each year, the first before the end of the 1959 school year. They will be made available on a geographic basis with heavily populated states receiving as many as 25. Each scholarship awardee will receive $500 a year for four years, providing scholastic standards are maintained.

Medical Research in 1959

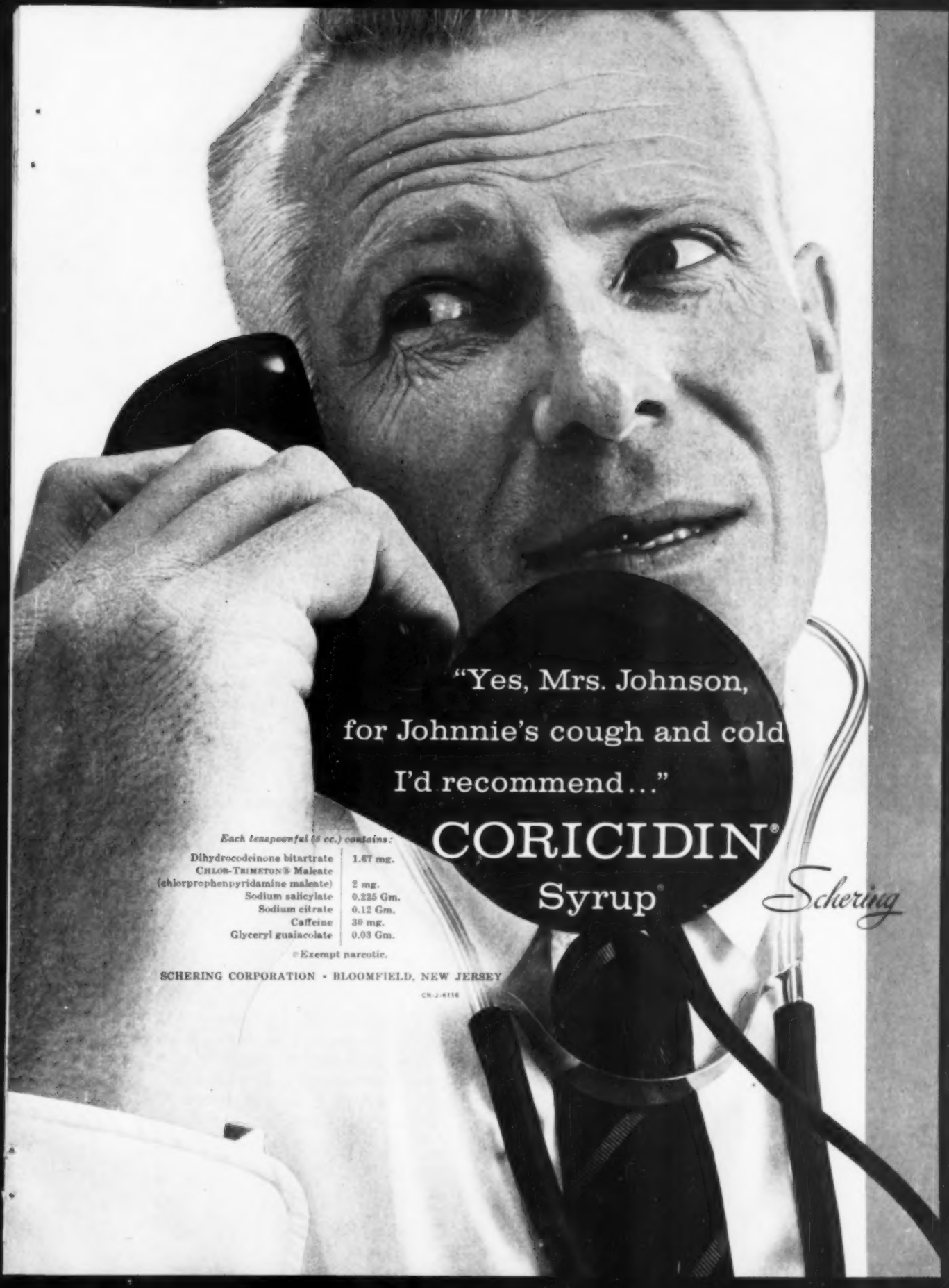
With the begining of a new year, medical science is at work on many fronts to alleviate disease and preserve life.

Eight member physicians of the Council on Scientific Assembly of the American Medical Association foresee a veritable fairyland of achievement in laboratories, clinics, hospitals, and medical research centers throughout the country.

The doctors related recently their New Year impressions of what medicine is trying to do, and of the achievements and the problems that are engaging the attention of researchers everywhere.

Dr. Stanley P. Reinmann, Philadelphia, chairman of the Assembly said: . . . Better substances will be found for the treatment of cancer. Likewise, there will be better drug control of arthritis and better substances for oral administration in diabetes. As ever, more accurate instruments are being given to us by our friends in mathematics, physics, engineering, and in many other fields."

Continued on page 210a


"Yes, Mrs. Johnson,
for Johnnie's cough and cold
I'd recommend..."
CORICIDIN®
Syrup®
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Each teaspoonful (5 cc.) contains:
Dihydrocodeinone bitartrate 1.67 mg.
CHLOR-TRIMETON® Maleate (chlorprophenpyridamine maleate) 2 mg.
Sodium salicylate 0.225 Gm.
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Dr. Michael E. De Bakey, Baylor University College of Medicine, Houston, Texas said: "One of the most exciting developments looming on the horizons of medical science lies in the field of tissue transplantation . . . studies now being made shed new light on the old problem of why the body throws off tissue transplanted from one to another member of the same species. There are reasons to believe that methods will be developed to alter this response so that tolerance to the transplanted tissue will occur . . ."

Dr. Walter Scott, Los Angeles, feels that ". . . Research is currently knocking at the door which will soon open and lead to world-wide control of viral diseases.

"Degenerative processes, particularly arteriosclerosis, together with the ever-increasing turmoil in man's emotional life, will be conquered more slowly and along lines not presently known. However, I do not expect that our descendants, a thousand generations hence, will ever see eradication of all congenital deformities or all allergies."

Dr. Leonard W. Larson, Bismarck, N. D. said "The future looks brighter for those who are destined to suffer from such present-day killers as cancer, heart disease, and arteriosclerosis. In the near future science also will open new doors to help those suffering from mental illness . . . .

"Recent studies showing that some forms of mental illness are due to abnormal chemical changes in the brain will speed the day when mental disease will be better understood. Better understanding, of course, will lead to methods and techniques for prevention and cure."

Dr. Samuel P. Newman, Denver, Colorado: ". . . we must remember that as we pass one medical milestone after another, man is being led through a longer path of life into old age. With it, he is plagued with the degenerative diseases of the joints, vascular system, and brain, consigning him to disability, pain and dependency. Thus, we can say medical science is forever awakening new frontiers to conquer. Piece by piece all of these problems will be solved and the knowledge passed on to everyone."

Dr. J. Arnold Bargen, Mayo Clinic, Rochester, Minn.: "Tremendous forward strides in our studies of the small intestine will soon yield a veritable storehouse of knowledge about human nutrition and absorption."

Dr. Carl A. Lincke, Carrollton, Ohio: ". . . research programs, now nearing completion, will shed new and important light on the aging processes of man. Recent studies have added greatly to our knowledge of hardening of the arteries and glandular functions of older people. These achievements . . . will help, too, to ease the economic burdens of our senior citizens."

Dr. Alphonse McMahon, St. Louis, said: ". . .Atomic medicine . . . offers many possibilities for the future.

"The effort to solve the problem of the disease processes affecting the blood vessels to vital organs continues on a broad scale. The narrowing and subsequent closure of these vessels is responsible for disability and death in a great number of human beings. In the solution of this problem lies the hope of the human race for a healthy and perhaps symptomless aging."

Grant for Research Facilities at University of Colorado

The US Public Health Service has notified Dean Robert J. Glaser, of the University of Colorado School of Medicine, that it has approved a grant of $1,344,165 in matching funds for construction of research facilities. The funds are made available for new construction and remodeling in the University Medical Center's long-range building program. Up to $140,665 of the matching grant may be used for equipment. The Center's proposed $17,500,000 expansion program includes a 405-bed hospital, medical and dental research facilities, outpatient clinics, and other construction.

Continued on page 214a

TWO NEW PARAFLEX* PRODUCTS

FOR RHEUMATISM AND TRAUMATIC DISORDERS

PARAFON*

THE SPECIFIC MUSCLE RELAXANT PLUS
THE PREFERRED ANALGESIC

FOR ARTHRITIS

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PARAFON relieves pain, stiffness, and disability caused by rheumatism and traumatic disorders; PARAFON WITH PREDNISOLONE compounds this relief with anti-inflammatory action in treatment for arthritis.

supplied: PARAFON: Tablets, scored, pink, bottles of 50. Each tablet contains: PARAFLEX Chlorzoxazone† 125 mg., and TYLENOL® Acetaminophen 300 mg.
PARAFON WITH PREDNISOLONE: Tablets, scored, buff, colored; bottles of 56. Each tablet contains: PARAFLEX Chlorzoxazone 125 mg., TYLENOL Acetaminophen 300 mg., and prednisolone 1.0 mg.

precautions: The precautions and contraindications that apply to all steroids should be kept in mind when prescribing PARAFON WITH PREDNISOLONE.

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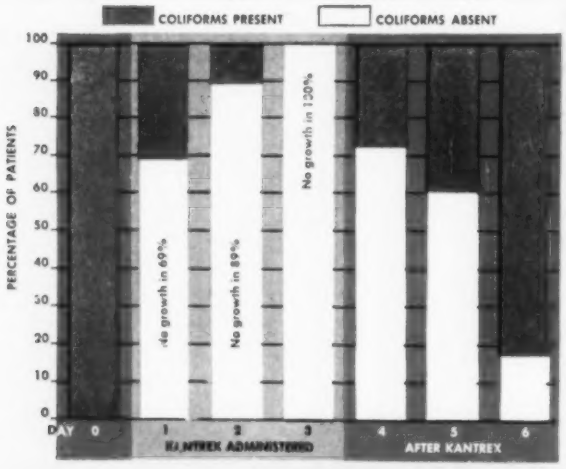
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COLIFORMS REMOVED FROM STOOLS OF MAJORITY OF PATIENTS AFTER ONE DAY OF KANTREX THERAPY[1]



In this study, coliforms were found in all 18 control specimens before KANTREX was administered. By the end of the first day of therapy, they had been removed from 69% of the patients; by the end of the second day, from 89% of the patients; and by the end of the third day, from all of the patients. Following cessation of therapy, the intestinal microflora returned rapidly to normal. KANTREX dosage consisted of 1 Gm. (2 capsules) every hour for 4 hours, then 1 Gm. every 6 hours for 72 hours.

bowel sterilization–

"the only single agent" to be recommended out of 30 drugs, combinations and dosages studied[1]...

KANTREX®

KANAMYCIN SULFATE

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FOR ORAL USE ONLY
Not for systemic infections

Based on experience with "more than 30 drugs, drug combinations, and drug dosages" for bowel sterilization, Cohn reported that KANTREX is "the only *single* agent" that can be recommended for such use, and is "superior to neomycin."[1] In another report, Cohn and Longacre cited the advantages of KANTREX as: negligible absorption from the gastrointestinal tract, "rapid and satisfactory control of streptococci, coliforms, and clostridia," and the failure of yeasts or staphylococci to proliferate during therapy.[2] Still others have termed it "an excellent intestinal antiseptic."[3]

DOSAGE FOR PREOPERATIVE BOWEL STERILIZATION: 1.0 Gm. (2 capsules) every hour for 4 hours, followed by 1.0 Gm. (2 capsules) every 6 hours for 36 to 72 hours. Duration of therapy depends on condition of patient, concurrent mechanical cleansing, and clinical judgment of the surgeon.

KANTREX Capsules are also indicated in the treatment of intestinal infections due to kanamycin-sensitive organisms, including Shigella and Salmonella.

Supply: KANTREX (kanamycin sulfate) Capsules, 0.5 Gm., in bottles of 20 and 100.

References: 1. Cohn, I., Jr.: Annals N. Y. Acad. Sci. 76:212, 1958. 2. Cohn, I., Jr., and Longacre, A. B.: S. G. & O. 108:100, 1959. 3. Finegold, S. M., *et al.*: Annals N. Y. Acad. Sci. 76:319, 1958.

KANTREX Sensitivity Discs and comprehensive literature available on request.

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Vitamin Supplements Unnecessary for Most Persons

Vitamin supplementation is unnecessary for normal persons following an adequate diet, the American Medical Association's Council on Foods and Nutrition said recently.

It criticized certain nutritional surveys which have indicated that "a variable fraction of certain segments of the population" is not receiving sufficient varities of foods to supply the necessary vitamins.

Commenting on the surveys, the council said "generalization of these findings as a basis for vitamin supplementation of healthy individuals is not rational. The methodology employed in these surveys and the standards used for interpretation have varied considerably. It is necessary for the physician to evaluate each person individually."

The council agreed, however, that there are some situations where vitamin supplementation is both necessary and desirable.

For instance, it may be useful "during periods of illness or a deranged mode of life which may result in impairment of absorption of nutrients or deterioration of dietary quality."

It may be of value to the individual who "through ignorance, poor eating habits, or emotional or physical illness does not eat an adequate diet."

The council noted that infants should receive supplements of vitamins C and D if their diets do not supply 30 milligrams of vitamin C and 400 U.S.P. units of vitamin D, the recommended daily amounts.

Adults who must follow restricted diets because of an illness, such as diabetes or stomach ulcer, may need specific vitamin supplementation. The character of the supplementation will depend on the diet, the nutrients given, and the length of time the routine must be maintained, the report said.

In addition, healthy persons may benefit from supplementary vitamins at certain special periods of life, such as during pregnancy and lactation.

The physician should be careful, the council warned, that his recommendations are not increased in amount and that his patients do not follow the precept that greater concentrations of vitamins are justified in light of the little additional cost.

It is not true that "if a little is good, more would be better," the report said. In fact, an overdosage of vitamins A or D can be harmful.

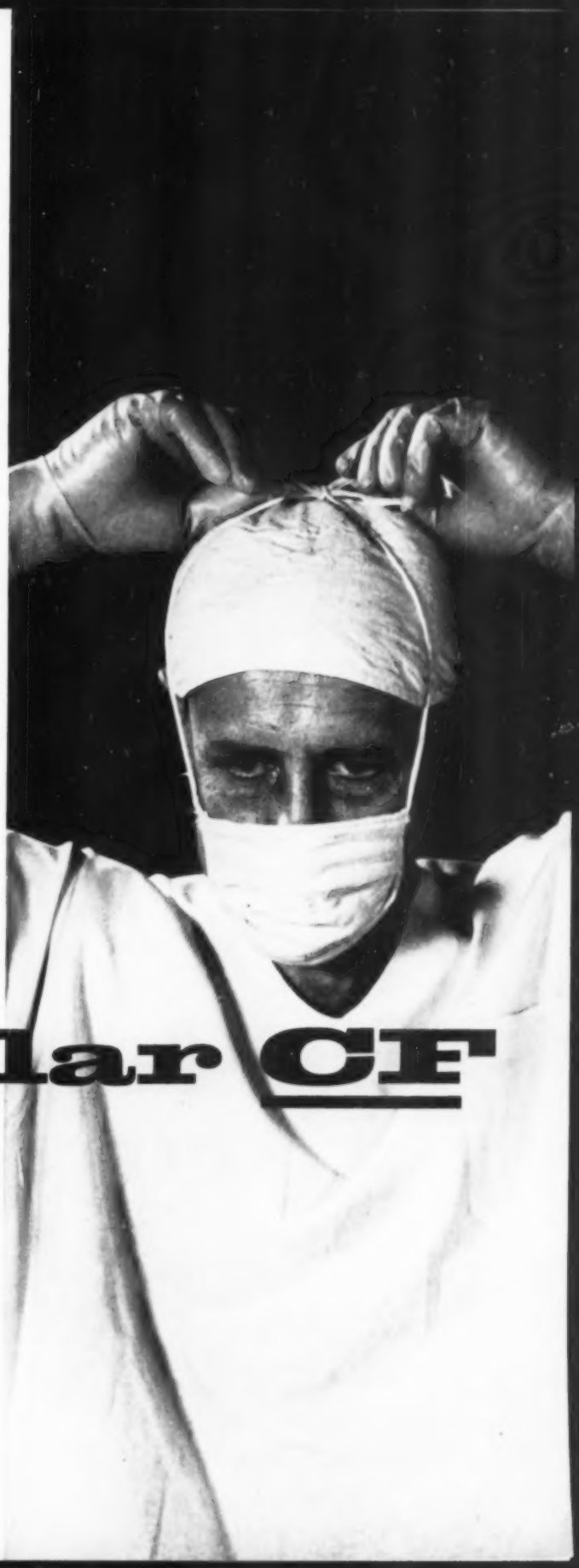
There is no good reason for the inclusion of minerals with vitamins, except perhaps in the case of iron and calcium. These would then be used in such situations as pregnancy or lactation.

In conclusion, the council said "public health will be served best by insistence on a factual basis for vitamin supplementation and therapy. It is sound judgment to emphasize repeatedly that properly selected diets are the primary basis for good nutrition."

Breast Cancers

Surgeons at the University of Michigan Medical Center have developed new evidence that there are a number of different forms of breast cancer. They call them "estrogen-dependent" and "non-estrogen-dependent." It is believed that breast cancer frequently responds to changes in the estrogen level of the body. The surgeons removed the adrenals in 27 patients and studied the effect on cancer of the breast. They reported that only some tumors increased in the presence of high estrogen concentrations. About 75 percent of women patients with widespread breast cancer and high estrogen levels responded to surgical removal of the adrenal glands. The same operation had no effect on patients with very low estrogen levels. The surgeons concluded that if the total estrogen excretion prior to operation was less than 1.5 micrograms, adrenalectomy would have no effect; whereas above this seemingly critical level about three-quarters of the patients underwent remission.

Continued on page 218a



When it comes to colds and coughs, surgeons are just like their patients . . . they want relief of symptoms and, if possible, to stay on the job.

Romilar Cold Formula controls the entire symptomatology of colds, including coughs. A synergistic combination,* Romilar CF

checks coryza
suppresses coughing
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*L. O. Randall and J. Selitto, *J. Am. Pharm. Assn. (Sc. Ed.)*, 47:313, 1958.

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HIGH POTENCY (peach-flavored)
250 mg. (400,000 units) per 5-cc. teaspoonful; golden color

Supplied: Combination package of vial of dry powder and 1 bottle of diluent to make 40 cc.

MEDIUM POTENCY (raspberry-flavored)
125 mg. (200,000 units) per 5-cc. teaspoonful; raspberry color

Supplied: Vial of powder to be reconstituted with water to make 40 cc.

PHYSICIANS' COUNCIL

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Philadelphia 1, Pa.

blood levels in **15** minutes...
peak levels in **30** minutes

VEE® K

Penicillin V Potassium for Oral Solution, Wyeth



For taste-fussy patients of all ages, Liquid PEN·VEE K gives you *two* potencies and *two* fruit flavors for flexible, patient-accepted management. It is indicated for both prophylaxis and treatment in all infections responding to oral penicillin. Ready, reliable absorption and rapid, high blood levels assure clinically effective therapeutic action. Liquid PEN·VEE K is the only liquid preparation of penicillin V potassium in two strengths and two flavors.

Immunization Schedules Listed for Adults

Immunization schedules for adults were recently outlined in the *Journal of the American Medical Association*.

Answering a query from a Michigan physician, one of the 900 physician consultants to the Journal said the "optimum intervals" for adult immunization, assuming that an adequate initial immunization series has been given, are:

- Smallpox. Vaccination is needed every three years.
- Diphtheria. Immunization is not recommended for adults except in cases where the person shows no immunity after exposure to special risks.
- Tetanus. A booster dose shuld be given at the time of each injury where the danger of tetanus exists, with reinjection in the absence of an injury at intervals of no longer than five years.
- Typhoid. Reinforcing injections are necessary every three years.
- Influenza. Injections should be given every year to "risk cases," such as old or chronically ill persons.
- Poliomyelitis. Not enough time has elapsed yet to learn about the duration of protection conferred by the Salk vaccine, but a fourth dose, given not earlier than one year after the third dose, could be administered to individuals exposed to special risks.

The consultant noted that these are general guiding schedules which vary according to circumstances. For instance, for persons traveling to areas where smallpox is prevalent, revaccination at intervals as short as six months may be desirable. The same is true for persons living in areas where typhoid is common. They should get a booster dose every year.

Continued on page 222a

GLUKOR effective in 85% of cases.[1]
Glukor may be used regardless of age

IMPOTENCE

and/or pathology . . . without side effects . . . effective in men in IMPOTENCE, premature fatigue and aging.[2] **GLUTEST** for women in frigidity and fatigue.[3] Lit. available.

GLUKOR ®

The original synergistically fortified chorionic gonadotropin. Dose 1 cc IM — Supplied 10 & 25 cc vials.

1. Gould, W. L.: Impotence, M. Times 84:302 Mar. '56.
2. Personal Communications from 110 Physicians.
3. Milhoan, A. W., Tri-State Med. Jour., Apr. '58.

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Research Supplies
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Give your patient that extra lift with "Beminal" Forte

Improve the general health of patients with chronic disease or when high B and C levels are needed

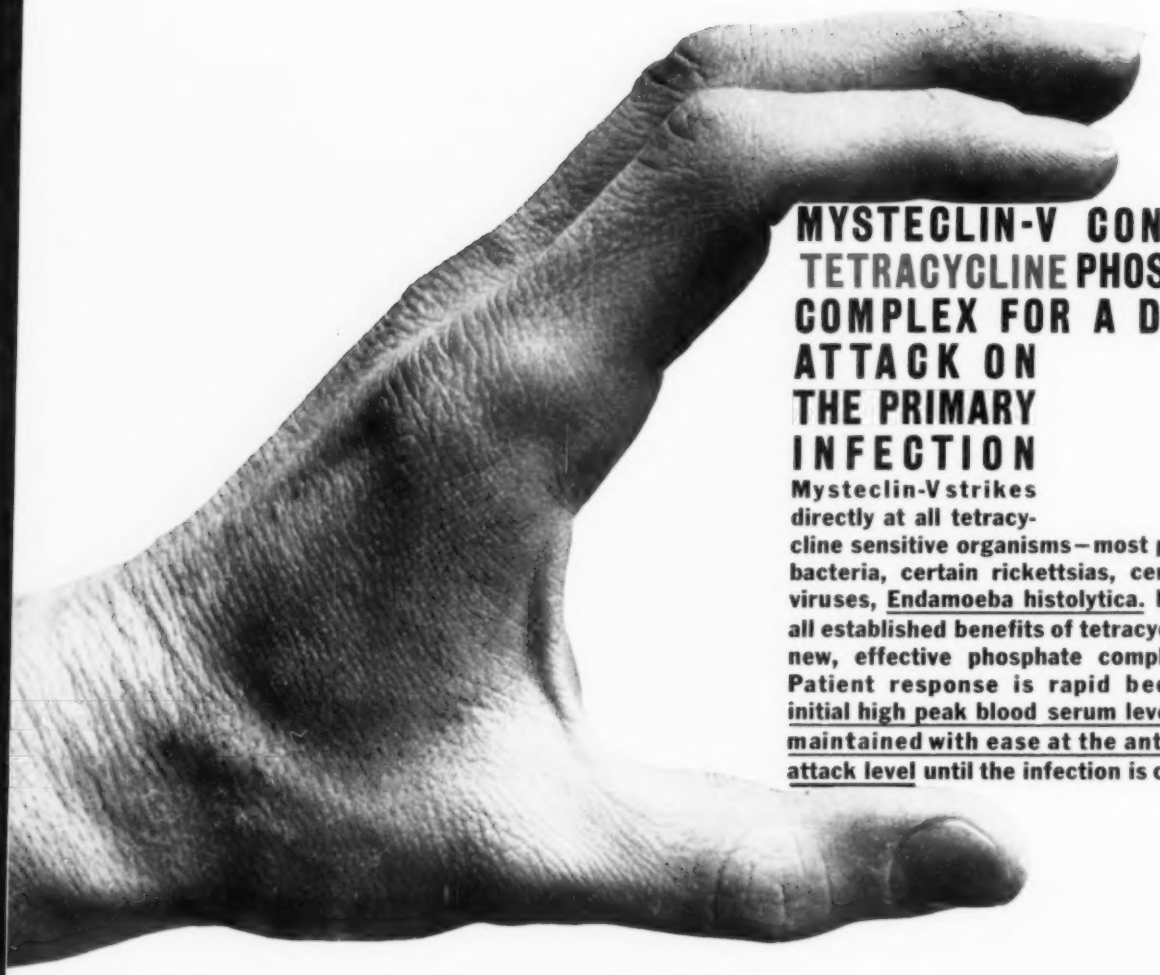
new improved formula **"BEMINAL" Forte with Vitamin C**

An increase in vitamin C content from 150 mg. to 250 mg. plus massive doses of B factors provide a truly high B and C formula to speed the process of tissue repair.

Supplied: No. 817 — Bottles of 100 and 1,000 capsules.

Ayerst Laboratories · New York 16, N. Y. · Montreal, Canada 5849

more than tetracycline alone



MYSTECLIN-V CONTAINS TETRACYCLINE PHOSPHATE COMPLEX FOR A DIRECT ATTACK ON THE PRIMARY INFECTION

Mysteclin-V strikes directly at all tetracycline sensitive organisms—most pathogenic bacteria, certain rickettsias, certain large viruses, Endamoeba histolytica. It provides all established benefits of tetracycline in the new, effective phosphate complex form.[1] Patient response is rapid because the initial high peak blood serum levels may be maintained with ease at the antibacterial attack level until the infection is conquered.

BOTH ARE OFTEN NEEDED WHEN

MYSTECL

Squibb Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)



MYSTECLIN-V CONTAINS MYCOSTATIN

FOR A SPECIFIC DEFENSE AGAINST SECONDARY MONILIAL SUPERINFECTION

Mysteclin-V protects patients against antibiotic induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis. This action is provided by Mycostatin, the antifungal antibiotic, with specific action against Candida (Monilia) albicans.[2]

BACTERIAL INFECTION OCCURS

IN-V

Capsules (250 mg./250,000 u), bottles of 16 and 100.
Half-strength Capsules (125 mg./125,000 u), bottles of 16 and 100.
Suspension (125 mg./125,000 u per 5 cc.), 2 oz. bottles.
Pediatric Drops (100 mg./100,000 u per cc.), 10 cc. dropper bottles.

References: 1. Cronk, G. A.; Naumann, O. E.; and Casson, K.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia Inc., 1958, p. 397.
2. Newcomer, V. D.; Wright, E. T.; and Sternberg, T. H.: Antibiotics Annual 1954-1955, New York, Medical Encyclopedia Inc., 1955, p. 686.

MYSTECLIN®, TSUNECIN® AND MYCOSTATIN® ARE SQUIBB TRADEMARKS

SQUIBB

Squibb Quality—the Priceless Ingredient

The Australian Native and the Common Cold

The common cold, infectious nuisance disease which baffles scientists and makes pharmacy-counter habitues of most Americans several times a year, is practically unknown to the people of the world who are most frequently exposed to drafts and chills—the aboriginal natives of central Australia.

According to Dr. Harold T. Hammel, Assistant Professor of Physiology at the University of Pennsylvania who recently returned from leading the second of two international scientific field trips to Australia, natives of the central Australian desert, who are not accustomed to wearing clothes or other body coverings, sleep very comfortably and without ill effects under the stars in temperatures that sometimes reach as low as 30 degrees Fahrenheit.

In order to learn how these primitive people can tolerate the great exposure to such coldness for long sleeping periods, a team of white investigators studied the aborigines during the winter season of 1957 in Australia. They slept side by side with the natives under identical cold exposure conditions. Dr. Hammel recalls, "I shivered all night while the natives beside me slept soundly. This was also the experience of all of the other scientists. We have proved that these natives have a natural resistance to cold unknown to white men or persons such as Eskimos or Lapps who live in Arctic climates but protect themselves with warm clothing."

Regarding the incidence of common colds among the natives, Dr. Hammel states that they saw very little evidence of upper respiratory infection among the aborigines even though practically any highly civilized persons would catch cold quickly under comparable circumstances. This does not mean that the best way to prevent colds is exposure to coldness and drafts, the Doctor warns. The reason that these people do not have colds is that they have not been exposed to the infection. This does not mean that they are immune, since, during the influenza epidemic of 1918, a large percentage of the aborigine population was wiped out.

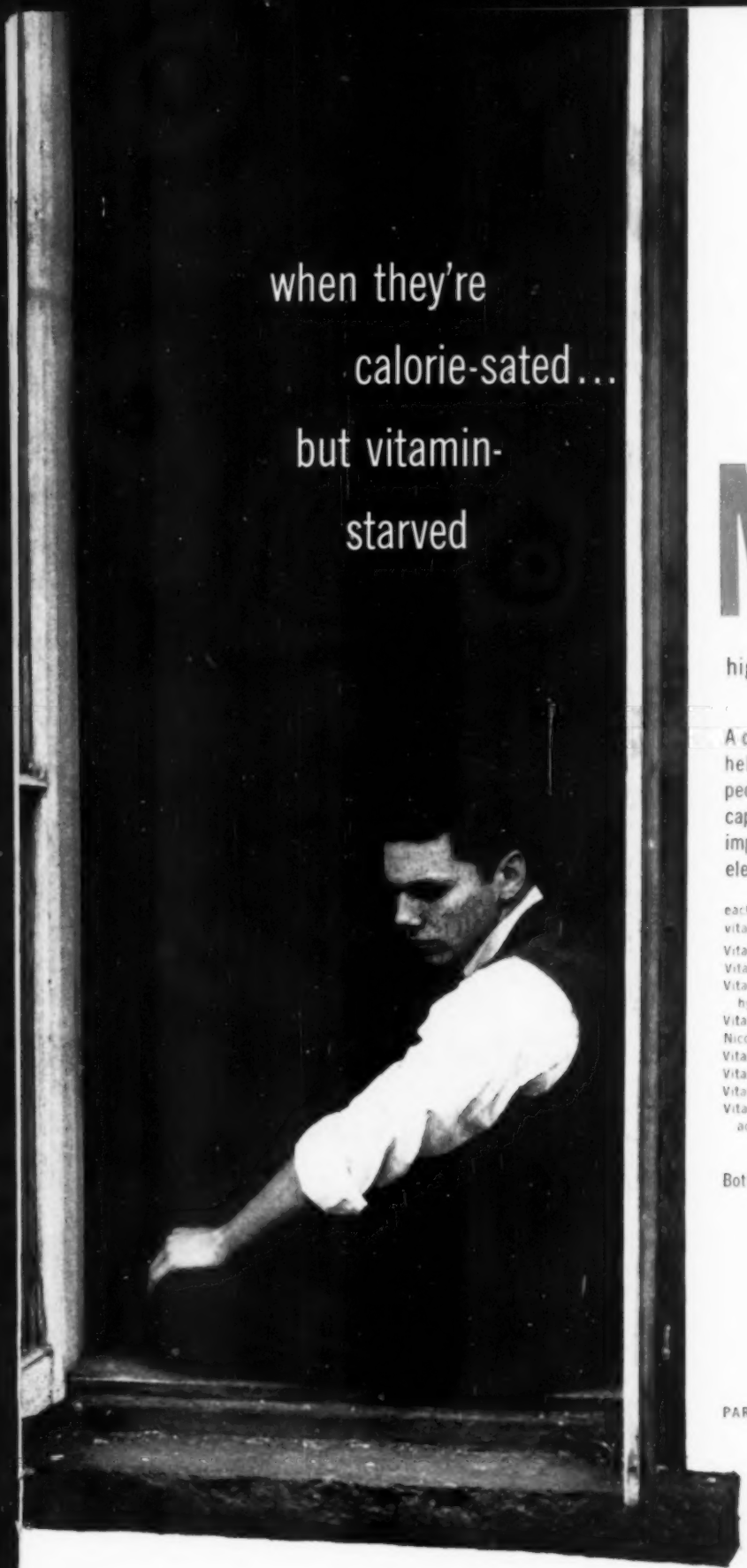
The scientific teams were attempting to learn if persons living in a cold environment such as that of the central Australian desert had a different physiological response from those living in a warm environment. By measuring the metabolic rate of the natives, it was found that their basic body temperature was about 1.5 degrees Fahrenheit lower than that of other human beings, a significant variation. It may be that the temperature systems of the natives have become modified to respond to lower temperatures.

Dr. Hammel adds that this is the first time that the question of whether a race, such as the aborigines, is different physiologically from other humans has posed a problem. Before the first Australian trip the answer was always in the negative. In studies with Eskimos and other people who live in extremely cold climates, it has been found that instead of acclimating themselves the Eskimos compensate by bundling in warm clothing, indicating no physiological difference in their reaction.

Allergy Program at Duke University

The National Institute of Allergy and Infectious Diseases, U. S. Public Health Service, has awarded Duke University Medical Center a $127,000 graduate training grant toward support of the expanded allergy program for five years. Primarily, the expansion consists of increasing the program to include research and clinical work in the allied areas of genetics, immunology, chest disease, and physiology. The work will also involve studies of the basic problems of tissue transplantation and immunological aspects of tumor research. Dr. Herbert O. Sieker, Assistant Professor of Medicine at Duke, explained that the clinical allergy service is being expanded to offer diagnosis and treatment of all kinds of allergic disorders.

Continued on page 224a



Myadec®

high potency vitamin-mineral supplement

A comprehensive nutritional supplement, MYADEC helps prevent vitamin-mineral deficiencies in people whose dietary habits are poor. Just one capsule daily supplies therapeutic doses of nine important vitamins plus significant quantities of eleven essential minerals and trace elements.

each Capsule contains:			
vitamins:		minerals (as inorganic salts):	
Vitamin B_{12} crystalline	5 mcg.	Iodine	0.15 mg.
Vitamin B_2 (G) (riboflavin)	10 mg.	Manganese	1.0 mg.
Vitamin B_6 (pyridoxine hydrochloride)	2 mg.	Cobalt	0.1 mg.
Vitamin B_1 mononitrate	10 mg.	Potassium	5.0 mg.
Nicotinamide (niacinamide)	100 mg.	Molybdenum	0.2 mg.
Vitamin C (ascorbic acid)	150 mg.	Iron	15.0 mg.
Vitamin A	25,000 units	Copper	1.0 mg.
Vitamin D	1,000 units	Zinc	1.5 mg.
Vitamin E (d-alpha-tocopheryl-acetate concentrate)	5 I.U.	Magnesium	6.0 mg.
		Calcium	105.0 mg.
		Phosphorus	80.0 mg.

Bottles of 30, 100, 250, and 1,000

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Gift to Student Aid Fund

The State University of New York Upstate Medical Center has received a $1,000 anonymous gift for its medical student aid fund. It is planned to award a substantial portion of the gift as scholarships to two or three particularly deserving individuals in the near future. This gift brings the total student aid funds of the College to $118,215. Of this, $40,815 is in scholarship funds of which only the interest is available to students, and $77,400 is for loans, with most loans given for five years. Since the cost of medical school today averages $2,400 a year, there is need for aid funds of this type.

Study of Baby Teeth at the University of Illinois

A $4,140 grant for studies on the relationship of baby teeth and handicaps in children has been awarded to the University of Illinois College of Dentistry by the Easter Seal Research Foundation. Dr. Maury Massler will conduct a clinical and microscopic analysis of growth rings in the dentin of decidous teeth shed by children crippled by cleft palate, mental deficiencies and Mongolism to determine at what time before birth the crippling occurred.

The grant is part of a program of assistance to research projects on congenital malformations. It was begun in 1956 by the National Society for Crippled Children and Adults when it established the Easter Seal Research Foundation.

Special Fund Established

A grant to assist in meeting educational expenditures for which state funds are not available has been received by the Chicago Professional Colleges. Dr. Francis L. Lederer, Head of the Department of Otolaryngology, has given the University $8,000 to establish the College of Medicine Otolaryngologic Fund.

Cancer Growth Inhibited by New Mustard Drug

New mustard drugs have checked the growth of deadly skin cancers, temporarily at least, in Stanford University experiments with mice. Melanoma, a savage malignancy that grows in man from pigmented moles or warts, is usually fatal unless removed in time by surgery. In the past neither drugs nor x-rays have been able to stop its growth. The Stanford experiments were conducted by Professor J. Murray Luck, a noted biochemist, under American Cancer Society sponsorship. He revealed that several amino acid-nitrogen mustard compounds had produced at least a transitory regression in mouse melanomas. None succeeded, however, in outright destruction of the tumors, they invariably recurred.

His experiments suggest, Professor Luck said, that these amino acid-mustard compounds interfere with the metabolism of the melanoma cells. This work offers a clue for the development of similar compounds which might prove more successful. A compound known chemically as "L-phenylalanine mustard" gave the best results. It reduced the size of tumors 96-98 percent. Tumors were grown from melanoma tissue implanted beneath the skin. Once the tumor was well developed, drugs were administered by injection into the abdomen or by mixing them with food. Tumors vanished dramatically after initial drug injections, but reappeared in about 30 days. A second course of treatment produced a second, less dramatic reduction of the tumor size.

In one control group of mice pure peanut oil injections were used, and comparative weights of the tumors were noted. Comparable figures for a 150-pound man would be a half-pound tumor with drug injections, and a 23-pound tumor with peanut oil injections. A variety of acid-mustard drug compounds were tested, but only those containing an "alpha-amino group" in their molecular structure were effective against mouse melanoma.

Continued on page 226a

dynamic control of GLAUCOMA

IN DIAGNOSIS—By reducing corneal edema, DIAMOX facilitates examination and diagnosis in ophthalmologic disorders.

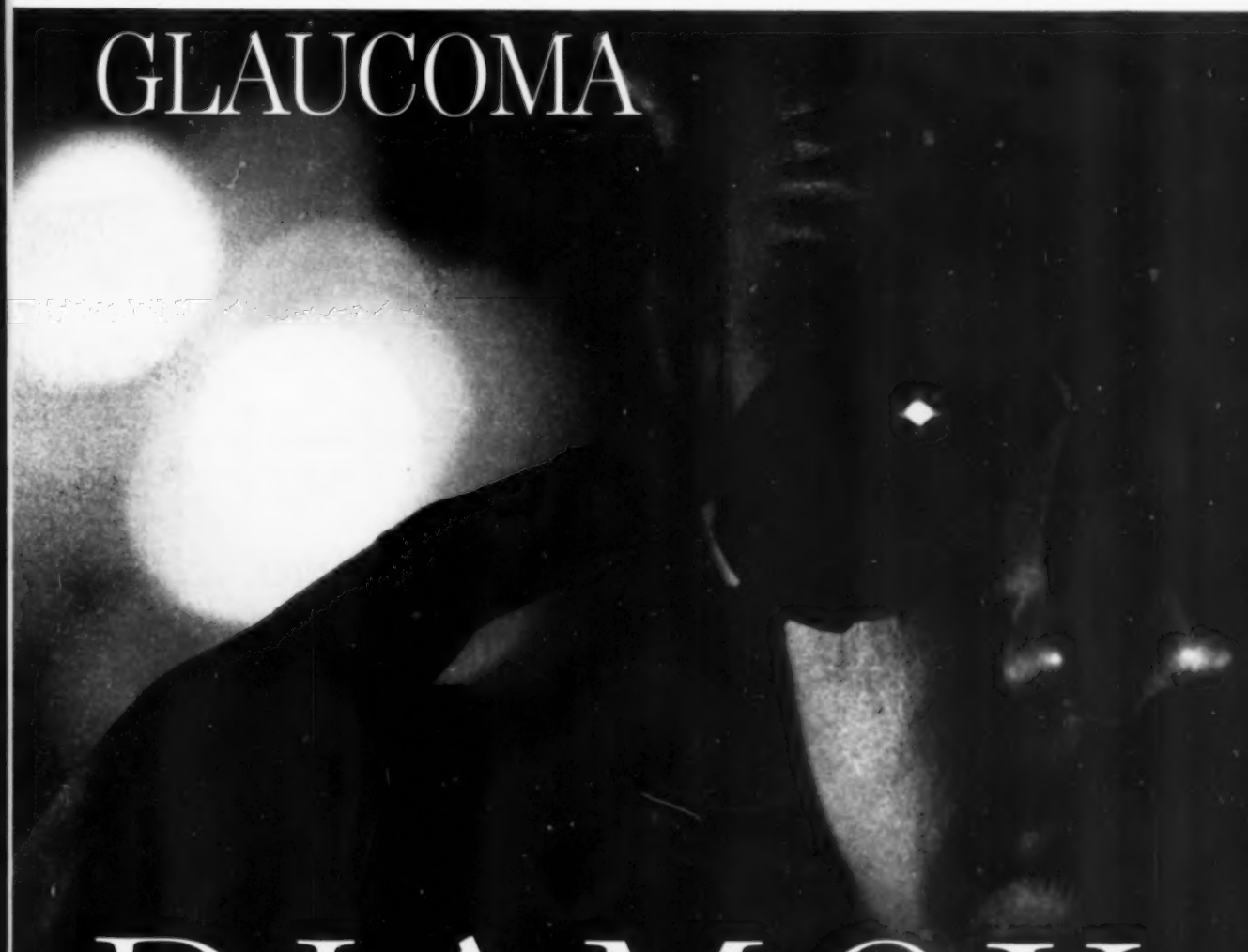
AS THERAPY—By lowering intraocular pressure, conservative therapy with DIAMOX can often reduce the need of surgical intervention in various glaucomatous conditions. Traumatic hyphemas, for example, can be resolved without cyclodiathermy puncture.[1]

PRE- AND POSTOPERATIVE CARE—Where surgery is required, tension is first reduced by DIAMOX and maintained after surgery to speed healing. Used with miotics, the synergistic action improves efficacy.[1]

Suggested DIAMOX dosage for glaucoma: 250 mg. every four hours. In severe glaucomatous crises, the intravenous form may provide quicker reduction of global pressure.

Supplied: Scored tablets of 250 mg., ampuls of 500 mg. for parenteral use, and syrup in bottles of 4 fluid ounces (peach flavor)—250 mg. per 5 cc. teaspoonful.

1. Venable, H. P.: J. Nat. M. A., 50:79, 1958.



DIAMOX®

HCO_3 regulating diuretic

Acetazolamide Lederle

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

New Trachoma Virus

Harvard scientists, working in the laboratories of the Arabian American Oil Company, have found a virus from a victim of trachoma which is toxic to small laboratory animals. The discovery opens the possibility of testing efficiently and simply the viruses present in trachoma.

Although the members of the Aramco Trachoma Research Program have obtained more than 70 different viruses and other microorganisms from the eyes of trachoma patients since 1955 when the field studies were begun, this is the first strain of virus from a trachoma patient which has been found toxic for small animals. The discovery is important for trachoma research since it may provide a relatively simple laboratory method to show whether trachoma viruses from various countries and regions are closely related or very different in their properties. This is one of the main questions which must be answered before further progress can be made toward vaccination against trachoma.

Importance of the Harvard progress report lies in the widespread prevalence of the disease and in the severe social and economic damage it causes. Described by the World Health Organization as a "serious social scourge," it afflicts many millions of persons in all parts of the world. Trachoma does not kill, but it frequently impairs vision if not promptly treated, and thousands of victims eventually become blind in one or both eyes. No positive cure for trachoma is now available, although the sulfa group and certain antibiotics seem to be partially effective.

Trachoma is widespread in the Middle East, the Far East, parts of South America, Africa

Continued on page 230a

12 *day treatment for tenacious trichomonas*



Quinettes

(with "pink pencil" applicator)

Help the deficient vaginal epithelium to help itself

STOPS TRICHOMONAS AND MIXED LEUKORRHEA INFECTIONS IN OVER 90% OF CASES

Patients with estrogenic deficiency are more susceptible to trichomonas vaginitis, and more resistant to treatment. Quinettes provide estrogen topically, plus needed protozoacidal, antibacterial, and fungicidal action. Restores vaginal mucosa to normal, healthy state which resists infection and infestation.

FORMULA: Each Quinette insert contains:

Stilbestrol	0.1 mg.
Diiodohydroxyquinoline	1.5 gr.
Sulfadiazine	7.5 gr.
Sorbic Acid	4.0 mg.
Hyamine	4.0 mg.

In a rapidly spreading base buffered to pH 4.

With individual, sanitary, disposable "pink pencil" applicator. DOSE: 1 q. 12 h. high in fornix.

Write for Literature and Samples

STORCK PHARMACEUTICALS, INC. 2326 Hampton Blvd., St. Louis 10, Mo.

Activates the appetite quickly, effectively, pleasantly

FORMATONE

Vitamin B Tonic

In FORMATONE, appetite-activating vitamins B_{12} and B_1 are augmented by:

sorbitol—markedly enhances absorption[1,2] of vitamin B_{12}.

pyridoxine (vitamin B_6)—aids in fat and protein metabolism.

These factors, plus a delicious sherry-wine base, all help activate appetites in your *geriatric*, *convalescent*, and *pediatric* patients with poor eating habits.



IVES-CAMERON COMPANY
Philadelphia 1, Pa.

1. Morgan, T.B. and Yudkin, J.: Nature *180*:543 (Sept. 14) 1957.
2. Greenberg, S.M., et al.: Nature *180*:1401 (Dec. 21) 1957.

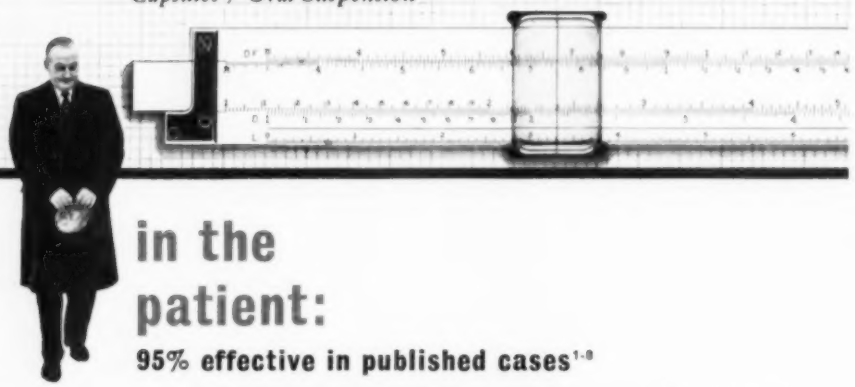
PRONOUNCED TAY-O

Rx Tao

(triacetyloleandomycin)

Capsules / Oral Suspension

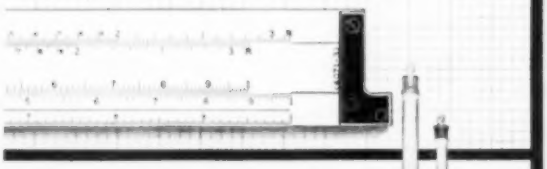
* *designed for superior control of common Gram-positive infections*



in the patient:

95% effective in published cases[1-8]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	**558**	**448**	**80**	**30**
Respiratory infections	**258**	**208**	**31**	**19**
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	–	6
Otitis media	31	29	2	–
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	**230**	**191**	**38**	**1**
Infected wounds, incisions and lacerations	41	33	8	–
Abscesses	51	43	8	–
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	–
Pyoderma	19	19	–	–
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	–
Genitourinary infections	**28**	**19**	**3**	**6**
Acute pyelitis and cystitis	10	8	2	–
Urethritis with gonorrhea or cystitis	8	8	–	–
Pyelonephritis	4	1	–	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	–	–
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	**42**	**30**	**8**	**4**

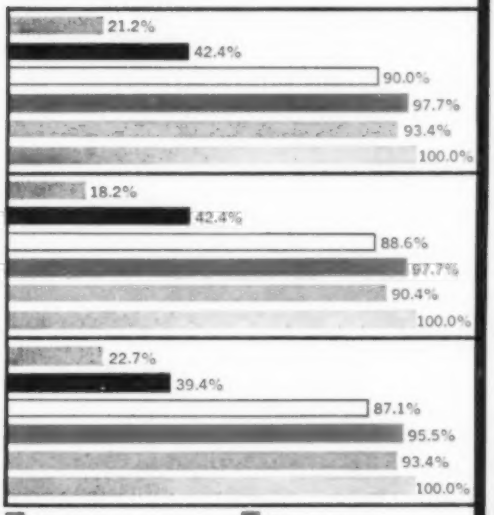


in the laboratory:



over 90% effective against resistant staph

COMPARATIVE TESTS BY THREE METHODS (DISC, TUBE DILUTION, CYLINDER PLATE) ON 130 STAPHYLOCOCCI[9]



Percentage of organisms inhibited by the range of concentrations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed – stable in gastric acid,[7] TAO needs no retarding protective coating

Low in toxicity – freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable – "practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults,** the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules – 250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension – 1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

TAO dosage forms – for specific clinical situations

TAO Pediatric Drops

For children – flavorful, easy to administer.

Supplied: When reconstituted, 100 mg. per cc. Special calibrated droppers – 5 drops (approx. 25 mg.) and 10 drops (approx. 50 mg.). 10 cc. bottle.

TAO-AC (TAO analgesic, antihistaminic compound)

To eradicate pain and physical discomfort in respiratory disorders.

Supplied: In bottles of 36 capsules.

TAOMID* (TAO with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action – in clinical emergencies.

Supplied: In 10 cc. vials.

*TRADEMARK



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Science for the World's Well-Being

and Asia, and throughout central and eastern Europe. The Mediterranean basin is particularly affected. In some Middle East areas 80 to 100 per cent of the inhabitants are affected. It eventually became prevalent in the United States, but by now has virtually disappeared except for minor occurrences in a few remote areas.

Voice Analysis

A superb but still imperfect tool for diagnosing mental ills is available for study, according to Dr. Paul J. Moses, Head of the Speech and Voice Disease Clinic at Stanford Medical School. The human voice contains many acoustic dimensions which convey overtones of emotion that go far beyond the articulation of words and the communication of thoughts.

The experienced psychiatrist can, of course, gather considerable information through observation of gait, posture, and facial expression, combined with intuitive listening to voice. But without a detailed vocal analysis, he will miss primary symptoms that seem to appear in the voice before they are evident in other expressions. Voice analysis is now perfectly feasible as a diagnostic technique. Phoneticians have begun to record, measure, and classify speech sounds. Enough has already been accomplished to justify special studies of vocal features in individual psychiatric patients.

The first requirement is the classification of voice in easily identifiable acoustic dimensions, and the next is the application of these standards to accurate interpretations of specific mental disorders. Voice characteristics to be studied include respiration, register, resonance, accent, and emphasis. Each can tell of the presence or absence of hidden anxieties, anger, and feelings of guilt. Attempts of the patient to reach into reality should not be determined from word content only; the voice dynamics often express these changes long before they are caught in words.

"I have analyzed tape recordings of schizophrenics," said Dr. Moses, "which contained no meaningful words but only word-salad. Yet an occasional normal balance between rhythm and melody was audible, which included normal blending of the head and chest register. In a few weeks the tape recordings began to show a more realistic expression in the word content. With present-day drug therapy of psychotics, these vocal changes can be heard within hours. Voice analysis is best done from tape recordings on which it is possible to listen repeatedly to particular sounds. To the trained ear not much material is necessary, but it is best recorded from spontaneous speech in different situations."

Heart Disease in Middle-Aged Men Studied

Obesity, high diastolic blood pressure, and elevated cholesterol levels show evidence of being factors in coronary heart disease in middle-aged men, but alcohol consumption and smoking do not, according to a team of Albany Medical College physicians. The group has just released a report on the findings of a five-year study of over 1,900 middle-aged men at the Cardiovascular Health Center, a State Health Department sponsored project at the Medical College. The report deals with the early manifestations of coronary heart disease in men.

The Cardiovascular Health Center is conducting one of the nation's most important long-term statistical studies of heart disease. It is the only center of its kind that is state-sponsored. The primary purpose of the Center is to detect the earliest manifestations of heart and circulatory disease in what is known to be an especially susceptible age group. The men, all state employees, have been examined annually since 1953; with a few exceptions, their ages range from 39 to 55 years. The most common form of heart disease found in the study was coronary heart disease. A total of 140 cases has been diagnosed either at the

first visit or during the ensuing four years. Approximately half of these patients have survived an acute case of myocardial infarction. The findings indicate that being moderately overweight does not predispose an individual to coronary heart disease. The likelihood is appreciable however if a person is grossly obese. There appears to be a somewhat greater relationship between cholesterol transported in the blood stream and coronary heart disease. A moderate rise in cholesterol levels greatly increases the risk of a coronary attack.

While the Albany Medical College investigators found that markedly elevated levels of diastolic blood pressure seem to relate to increased risk of coronary heart disease, they did not find a correlation between high systolic pressures and the disease. No evidence was found to indicate that obestity, high cholesterol levels, and increased diastolic pressure pose a greater threat when they are present in combination. Neither was evidence uncovered to indicate that a family history of vascular disease made a person more susceptible to coronary heart disease. The findings did not show any correlation between the use of alcohol or tobacco and coronary heart disease.

Report New Mumps Complication

A new and potentially serious complication of mumps in adults was reported recently by two University of Minnesota physicians.

It is thrombopenic purpura, skin hemorrhages resulting from a disturbance in the clotting mechanism of the blood. The disturbance occurs because of a shortage of a certain type of blood cell.

Drs. Charles P. Kolars and Wesley W. Spink, Minneapolis, said the condition "must be added as a complication" of mumps because of the potential danger of the blood cell shortage becoming chronic.

The other possible complications of mumps in adult life are inflamation of the testis, the ovary, the brain and spinal cord membranes, and the pancreas. These "can be painful and serious," the doctors said in the *Journal of the American Medical Association.*

Thrombopenic purpura is occasionally observed in patients with other infectious diseases, but two doctors could find no reports in the medical literature of it occurring in mumps. The fact that they saw three cases in adults 'over a relatively brief period' suggests that it may occur more frequently in mumps than is realized, they said.

The cause of the complication is not known. It may result, they said, from invasion of the tissues by virus or from some type of acquired hypersensitivity.

Treatment with cortisone and prednisone which have been found to control the other complications of mumps, controlled the bleeding tendency in the three patients and also corrected the blood cell deficiency in one.

In conclusion, the doctors suggested that mumps should be considered as a possible causative factor when patients present cases of thrombopenic purpura for which there appears to be no specific cause.

University of North Carolina

The Rockefeller Foundation has granted $250,000 to the Department of Medicine, University of North Carolina School of Medicine, for a five-year program of general development. Dr. Charles H. Burnett, Chairman of the Department of Medicine, will direct the program which will be concluded in 1963. Special subjects for immediate consideration will be:

- Further development of the general medical clinic in conjunction with the Department of Preventive Medicine.
- Closer liaison and teaching with the basic medical sciences.
- Development of a foreign student exchange program, especially graduate medical students from the South American countries.

Continued on following page

new...for more reliable family planning...



LANESTA® GEL

SPERMICIDALLY FASTER – Immobilizes the last discoverable sperm in ¾ or less time than other leading vaginal gels and creams.[1]

WELL TOLERATED – Nonallergenic and nonirritating – even in the presence of acute vaginitis.[2,3]

CLINICALLY PROVEN – Only one unplanned pregnancy in over 200 patient-years' clinical experience – calculated Protective Index greater than 99.5%.

COMPLETE AESTHETIC ACCEPTABILITY – Reported highly acceptable by 96-98% of patient-users and their husbands.

Manufactured by

ESTA MEDICAL LABORATORIES, INC.
ALLIANCE, OHIO

For bibliography, complete information and complimentary clinical sample, write George A. Breon and Co., 1450 Broadway, New York 18, New York; Distributors.

Grant to Georgetown University

A three-year grant of $105,000 from the John A. Hartford Foundation of New York City has been received by the Georgetown University Medical Center. Half of the award is to be used in the Renal Laboratory to continue work with an artificial kidney. The artificial kidney at Georgetown is a mechanical filter that substitutes for non-functioning kidneys, and is used in uremic poisoning, cardiovascular crises and other acute emergencies associated with kidney malfunction. In cases of barbiturate poisoning, the apparatus removes toxic substances from the blood at a rate from 10 to 40 times faster than could be done by two normal kidneys operating at maximum efficiency. The artificial kidney uses porous cellophane to strain poisonous materials from the blood. The device retains large blood cells, but eliminates through its porous walls the tiny molecules of potassium, sodium, and nitrogen by-products in the blood.

The other half of the Hartford grant will be used for the investigation of abnormal fat metabolism and its intimate relationship to the development of acute and chronic pancreatitis, atheromatous diseases of the blood vessels, and various forms of hyperlipemia. Elaboration of a program to study by histochemical methods the abnormal lipid deposits in atheromatous blood vessels is being carried out in an attempt to relate these findings to abnormal serum lipid levels.

Wayne State University and Hospital Affiliates

Approval of a proposed affiliation agreement between Wayne State University College of Medicine and Sinai Hospital has been given by the University's Board of Governors. Stipulations of the agreement will be maintained through a permanent standing committee appointed jointly. With the acceptance of Sinai as an affiliate, the College of Medicine now

Continued on page 234a

During her reproductive years— almost every woman needs iron therapy



The average woman loses 1 mg. of iron per day through normal elimination. Add to this an average of 15 to 30 mg. each menstrual period.[1] It is evident that many women deplete their iron reserves faster than the normal diet can replenish them.

Many clinicians recommend that every woman, during her reproductive years, receive iron therapy for six weeks each year.

Livitamin, with *peptonized* iron, offers an excellent formula to restore depleted iron reserves. Peptonized iron is well absorbed and stored, and less irritating than other forms. The Livitamin formula, which contains the B complex, provides integrated therapy to normalize the blood picture.

1. Brown, E.B., Jr. *The Management of Iron Deficiency Anemia*, GP, 2:87 (Feb. 1958).

LIVITAMIN®

with Peptonized Iron

FORMULA: Each fluidounce contains:

Iron peptonized (Equiv. in elemental iron to 71 mg.)	420 mg.
Manganese citrate, soluble	158 mg.
Thiamine hydrochloride	10 mg.
Riboflavin	10 mg.
Vitamin B_{12} Activity (derived from Cobalamin conc.)	20 mcg.
Nicotinamide	50 mg.
Pyridoxine hydrochloride	1 mg.
Pantothenic acid	5 mg.
Liver fraction 1	2 Gm.
Rice bran extract	1 Gm.
Inositol	30 mg.
Choline	60 mg.

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Livitamin
is better
because
it contains
peptonized
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*current studies**
show peptonized iron

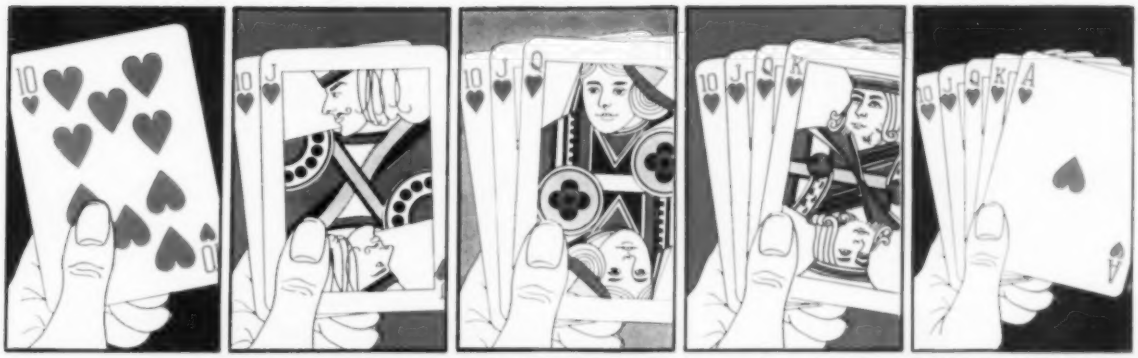
- Absorbed as well as ferrous sulfate.
- Non-astringent.
- Free from tendencies to disturb digestion. (One-tenth as irritating to the gastric mucosa as ferrous sulfate.)
- More rapid response in iron-deficient anemias.
- One-third as toxic as ferrous sulfate.

*Keith, J.H.: Utilization and Toxicity of Peptonized Iron and Ferrous Sulfate, Am. J. Clin. Nutrition *1*:35 (Jan.-Feb., 1957).

LIVITAMIN®

with Peptonized Iron

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LEAVES NOTHING TO BE DESIRED



HYCOMINE®
Syrup

THE COMPLETE Rx FOR COUGH CONTROL

cough sedative / antihistamine / expectorant

- relieves cough and related symptoms in 15-20 minutes
- effective for 6 hours or longer
- promotes expectoration
- rarely constipates
- cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE contains:

Hycodan®		
Dihydrocodeinone Bitartrate (Warning: May be habit-forming)	5 mg.	6.5 mg.
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Adult Dosage: one teaspoonful q. 6 h. May be habit-forming.
Federal law permits oral prescription.

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Literature on request

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has three private Detroit hospitals available for all phases of teaching, research, and patient care.

The other private affiliates are Children's Hospital of Michigan and Harper Hospital. Grace and Detroit Memorial Hospitals have had departmental arrangements with the College of Medicine for several years. Public hospitals used extensively by the College of Medicine for teaching are Detroit Receiving, Herman Kiefer, and the Veterans Administration Hospital in Dearborn.

Blood Research at the University of North Carolina

The Hemo-Cardiac Foundation, Inc. has announced the grant of $10,000 to the University of North Carolina School of Medicine. The funds are to be used to help carry on basic blood studies now being conducted at the University under the direction of Dr. Kenneth M. Brinkhous, Professor and Chairman of the Department of Pathology.

The Hemo-Cardiac Foundation, Inc. is a non-profit North Carolina corporation with 14 members. The services rendered by its members, directors, and officers are entirely voluntary. The Foundation was organized to encourage and promote research into the causes of cancer and circulatory diseases. Its prime interest is leukemia and coronary disease.

Another grant of $180,550 for a five-year research project has been made to the University by the National Institutes of Health of the United States Public Health Service. The research project will be in the field of problems of blood coagulation and hemorrhagic diseases. The study will deal with the fundamentals of blood clotting and hemorrhages. The principal investigator on the project is Dr. John H. Ferguson, Professor and Head of the Department of Physiology. Of the total sum granted, $37,950 will be expended the first year and $35,650 will be used during each of the next four years. The grant for the first year is larger in order to cover the cost of needed equipment.

This is the fourth grant for this project to be received by the University. A previous three-year grant of $52,000 enabled the investigators to announce the discovery last year of what is believed to be a new type of bleeding disease in humans. The new disease results from the presence in the blood of a specific inhibitor of the blood clotting element.

People Want to Choose Own Doctor

More than three-fourths of the population of the United States want to choose their own doctor.

In addition, they want to assume all or part of the responsibility for paying their doctor bills.

These were among the findings in a survey conducted among a sampling of the adult general population by Opinion Research Corporation, Princeton, N.J., for the American Medical Association.

The purpose of the study was to explore attitudes about the choice of physicians.

The study also showed that:

- Eighty-eight percent of the population believe the right to see the same doctor regularly is of vital importance.
- Eighty-nine percent believe that medical care in this country has improved over the past 20 years. Half of these persons ascribe the improvement to more and better research and advances in medical science.

Seventy-six percent of the people said they wanted to choose their own physicians.

In answer to further questioning, 93 percent of those surveyed felt that free choice would give them more confidence in the doctor; 84 percent thought doctors would take a more personal interest in them, and 79 percent believed they would have less trouble getting the doctor to make a home call.

Concerning the right to see the same physi-

Continued on page 236a

LOW BACK PAIN is frequently the only presenting symptom of OSTEOPOROSIS



Although accepted as a natural concomitant of old age, osteoporosis is not easily recognized in middle age. Nagging pain in the lower back and legs can be the first manifestation of estrogen withdrawal or gonadal insufficiency.

ANA-DOME Tablets, an androgen-estrogen combination with Vitamin C added, not only relieves pain in these cases but revives and promotes osteoblastic and anabolic activity. Reparative support is thus provided for fragile and inelastic bone.

Each tablet contains methyltestosterone 10 mg., beta-estradiol 1 mg., and calcium ascorbate 375 mg. Bottles of 30 and 100.

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cian all the time, 88 percent felt this right to be very important.

When queried about the main advantages of a regular doctor, those interviewed gave a variety of reasons. Sixty-two percent cited the physician's knowledge of their medical history. They said, "He knows your system inside and out from dealing with you regularly; he knows what you've had."

E. K. G. Machine Developed

A new transistor for transmission of electrocardiograms by telephone has been developed in the Cardiovascular Laboratories of the University of Kansas School of Medicine. The new Tele-EKG machine is only one-third of the weight of its prototype, developed in 1953 by Dr. E. Grey Dimond and his associates in the laboratory. In addition to the advantages of compactness, the new version does not require a wire to the telephone or a permit from a telephone company for its use.

At the laboratory, a small five-pound transistorized unit has been developed which can be attached directly to the patient by standard lead wires, and which needs to be placed only adjacent to the mouthpiece of any standard telephone. The signal is transmitted into the mouthpiece of the telephone by inductance, and no wire connection is necessary. Routine or long-distance lines carry the signal without special arrangement with the telephone company. The transmission of the E.K.G. can be interrupted at any time for comment or question. A multiple-lead selector is built into the unit which does not require an electrical outlet —it is powered by penlight and mercury batteries.

With a standard heart-sound microphone, heart tones and murmurs can be transmitted over standard telephone lines with excellent quality. A slightly modified similar unit on the receiving end can take the information from the telephone and signal any standard electrocardiograph machine.

Evaluation of Education Program

An educational research program of vital import to the University of Illinois College of Medicine has received approval in the form of a $112,000 grant from the Commonwealth Fund in New York for a two-year pilot study of the College's educational processes, beginning September 1, 1959. The study is expected to result in the establishment of a permanent center for educational research at the College.

"It would be difficult to overestimate the significance of this project to the College of Medicine," Dean Granville A. Bennett declared. The proposal to the Fund grew out of two years' deliberation by the faculty and administrators of the College. The proposal was labeled a "pilot study directed toward the establishment of an educational program that is best suited to the future needs of this University." It is visualized that the Center, once established, will be regarded as an essential unit of faculty organization and hence will be continued on a permanent basis.

Malcolm P. Aldrich, President of the Commonwealth Fund, stated, "In making this appropriation, the Board appreciates the problems faced by medical schools with large enrollments, particularly at this time when it is quite evident that an expansion of the country's facilities for the training of physicians and other health personnel is under way."

The Low-sodium Banana

Laboratory analysis of the sodium content of bananas has shown that the fruit is well adapted to the low-sodium diet required by patients with congestive heart disease and cirrhosis of the liver. The first quantitative analysis of the sodium content of the banana has been made by Dr. Warren E. C. Wacker and his associates in the Biophysics Laboratory of the Harvard Medical School.

Inability of the body to dispose of excess sodium in a normal fashion leads to the accu-

Continued on page 238a

Fostex®
treats their acne while they wash



degreases the skin helps remove blackheads dries and peels the skin

...and this is how it works

Fostex provides essential actions necessary in treating acne. It washes off excess oil. It unblocks pores by penetrating and softening blackheads. It dries and peels the skin, removing papule coverings, thus permitting drainage of sebaceous glands.

Fostex contains Sebulytic®,* a combination of surface-active wetting agents with remarkable antiseborrheic, keratolytic and antibacterial actions . . . enhanced by sulfur 2%, salicylic acid 2%, hexachlorophene 1%.

*sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.

Your patients will like Fostex because it is so simple to use. They simply wash acne skin 2 to 4 times a day with Fostex, instead of using soap.



FOSTEX CREAM

. . . in 4.5 oz. jars. For therapeutic washing in the initial phase of oily acne treatment.



FOSTEX CAKE

. . . in bar form. For therapeutic washing to keep the skin dry and free of blackheads during maintenance therapy. Also used in relatively less oily acne.

Write for samples.

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mulation of excess fluids in the extra-cellular tissues of the body. This process is particularly serious in patients suffering from congestive heart disease or cirrhosis of the liver. The research has shown that sodium can be classed as a "trace element" in the banana, the average content being 0.41 micrograms per gram, a negligible amount.

With the use of ten bananas as the staple portion of the diet, supplemented with 1.5 liters of the recently developed low-sodium milk, it is possible to obtain a paltable and nutritious low-sodium diet. In two patients on whom reports were made, one with rheumatic heart disease and another with post alcoholic cirrhosis of the liver, there were abnormal accumulations of extracellular fluids. Each tolerated the banana-milk diet, and their physical conditions improved. The patient with heart disease lost 27 pounds on the banana-milk diet. A similar loss of 11 pounds was reported for the patient with cirrhosis of the liver.

Nose Surgery in Childhood

Nose surgery before a child is 14 should be kept to an absolute minimum, according to two Eastern otolaryngologists.

Surgery to correct nasal deviations should be delayed whenever possible until the nose has reached its full growth between the ages of 14 and 17, the doctors said in *Archives of Otolaryngology*.

Surgery in the early years may interfere with the nose's growth and result in further deviation. Surgery should be performed only in situations where the deviation interferes with the passage of air.

The authors, Dr. Joseph G. Gilbert, Roslyn

Continued on page 242a

If they need nutritional support . . . they deserve



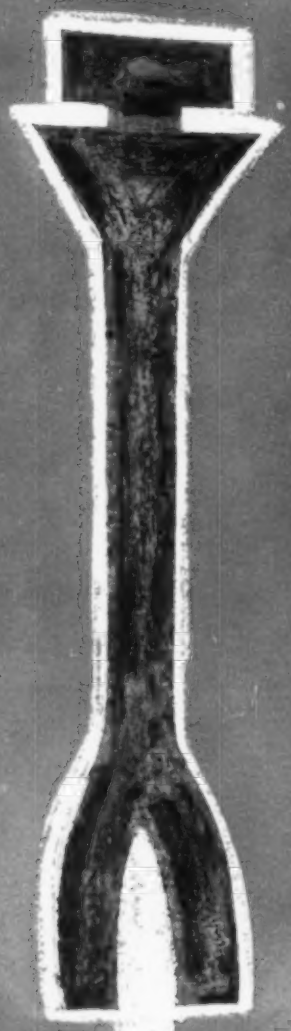
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CAPSULES—14 VITAMINS—11 MINERALS

Each capsule contains:	
Vitamin A	5,000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12} with AUTRINIC* Intrinsic Factor Concentrate	1.15 U.S.P. Oral Unit
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Bitartrate	50 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as d,l-tocopheryl acetates)	10 I.U.
l-Lysine Monohydrochloride	25 mg.
Rutin	25 mg.
Ferrous Fumarate	30 mg.
Iron (as Fumarate)	10 mg.
Iodine (as KI)	0.1 mg.
Calcium (as $CaHPO_4$)	157 mg.
Phosphorus (as $CaHPO_4$)	122 mg.
Boron (as $Na_2B_4O_7 \cdot 10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Manganese (as MnO_2)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.

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*Behm, D.; Clark, F.; Jennings, M.; Pullan, V.; Olson, H.; Wolf, L., and Tyler, E. T.: West J. Surg. 64:152, 1956.

Composition: Nonylphenoxypolyoxyethanol 5% in an oil-in-water emulsion at pH 4.5.



BEFORE VANUL

Mr. A.Y., age 52. Epigastric upset for years. X-ray before therapy shows penetrating gastric ulcer ½" in diameter on lesser curvature.



AFTER VANUL

After 6 weeks of therapy with VANUL, 1 tablespoonful q.i.d. X-ray shows ulcer crater healed.

82 percent of 287 cases of gastric and duodenal ulcer responded to **VANUL**® therapy in clinical trials by a group of twenty investigators under the supervision of M. M. Szucs, M.D., Youngstown, Ohio.*

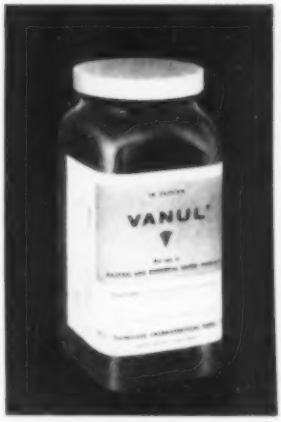
VANUL

is a highly tenacious vegetable mucilage which effectively coats the gastrointestinal mucosa, protecting the lesion from the further assault of gastric juices, and enabling it to heal. Supportive antispasmodic action is provided by Tincture of Belladonna. Symptomatic relief of pain and distress is prompt, usually in 48 hours.

Supplied: Bottles of 16 fluid ounces of palatable, peppermint-licorice flavored aqueous suspension. **Dosage:** Clinical investigators suggest a therapeutic dosage of 1 tablespoonful before meals and on retiring, for approximately three weeks, followed by a maintenance dosage of 1 or 2 teaspoonfuls a day until X-ray studies show the ulcer crater has healed. Literature and samples on request.

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(Hydrocortisone Alcohol .25%, NSulfanilylacetamide 8.5%, Resorcin 2%, and Sulfur Colloid 5%, "Dermik").

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as a measles modifier
reduces the severity of the attack, yet allows full active immunity.

for measles prevention
confers effective passive immunity for three to four weeks.

derived from human *venous* blood.

antibody equivalent of more than 40 cc. of normal immune serum in each 2 cc.

Available: 2 cc. and 10 cc. vials.



Leaders in Human Blood Fractions Research

CUTTER

Heights, N. Y., and Dr. Samuel Segal Jr., Springfield, Mass., also reported a new operation for repairing the bone that divides the nose into two chambers. It is better, they said, to make several small vertical incisions near any buckled area of cartilage than to make one long incision.

This is recommended so that only a minimum of cartilage will be removed and that only a minimum of interference with the nutrition of the remaining cartilage will occur.

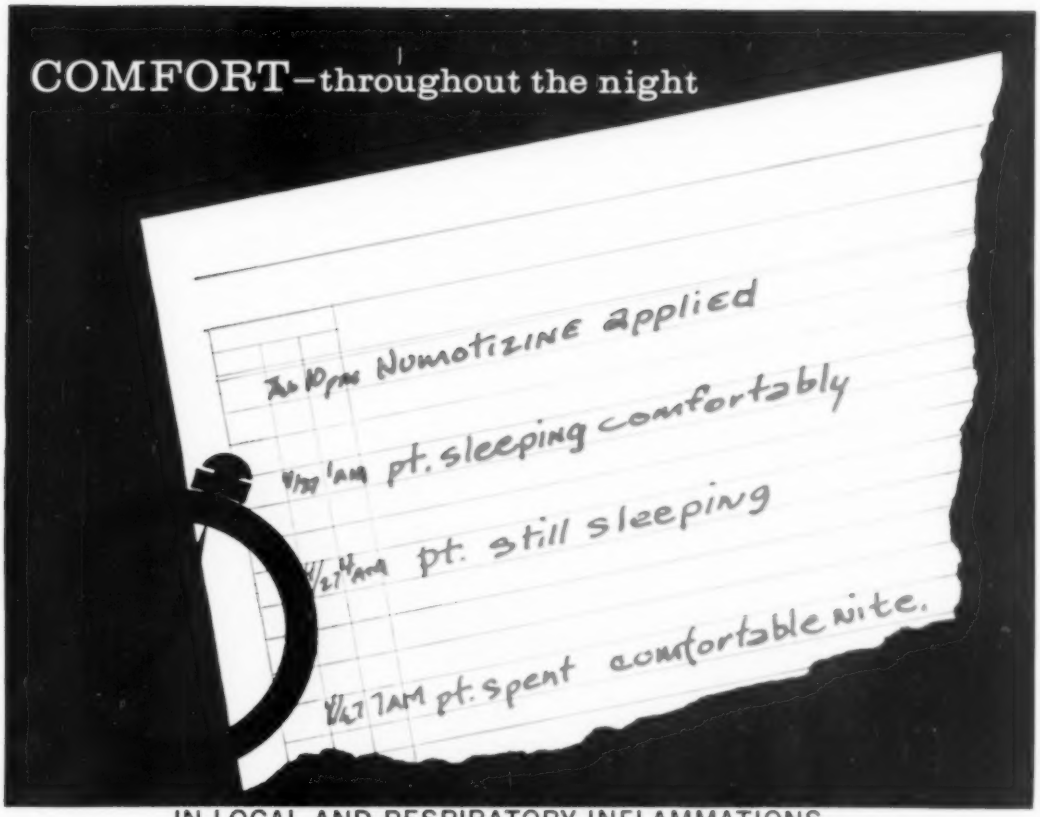
New Laboratory at the University of North Dakota

The construction of a new biochemical research laboratory at the University of North Dakota has been made possible by a gift of $75,000 from Mrs. Bertha Ireland, for whom the laboratory will be named; an award of $74,190 from the National Institutes of Health, and completion of the required amount from the funds of the State Medical Center. In addition, the University has received a total of $45,443 in new grants for research from the American Cancer Society; the U.S. Atomic Energy Committee; Lipotropic Research Foundation, and the U.S. Public Health Service.

Industrial Medicine Program At Wayne State University

Construction of an $800,000 Industrial Medicine and Hygiene Building is already underway at Wayne State University, Detroit. Radiation studies will be conducted on two specially designed and equipped floors of the four-story building. Other projects will include the study of atmosphere pollutants, including radioactive substances, and vehicular health hazards as they may attend certain occupations. A special area for electronic instrumentation will be installed, and a laboratory for study of exhaust fumes will be on the first floor.

Continued on page 246a



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CATAPLASM

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FOR 8 HOURS...AND MORE

The combined analgesic-decongestive medications in Numotizine act by steady and continuing infiltration from Numotizine's carefully formulated polyol-aluminum silicate base.

This slow release of comforting ingredients eliminates fussy care...allows patients to sleep without interruption all night long.

FORMULA Guaiacol, 0.26%; Sol. Formaldehyde, 0.26%; Beechwood Creosote, 1.30%; Methyl Salicylate, 0.26%, in a kaolin-polyol base. Apply at least ⅛" thick over affected area, and cover with a suitable dressing.

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New revitalizing tonic brightens the second half

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Your aging patients are confronted with many physical and emotional problems of adjustment. Along with waning gonadal function and faulty nutrition, there is a sense of frustration, inadequacy and failure that makes life lose its savor.

RITONIC—the new revitalizing tonic—is designed to brighten the second half of life by meeting the many problems of middle-aged and senile let down. **RITONIC** contains **RITALIN**—the safe central stimulant—to renew vitality and a sense of well-being. It contains a balanced estrogen-androgen combination to correct the hormonal deficiencies and exert beneficial anabolic effects. It contains the essential vitamin B factors and dicalcium phosphate to improve general nutritional status.

Clinical studies[1,2] with **RITONIC** report excellent results in about 80 per cent of cases. " We found Ritonic to be a safe, effective geriatric supplement that can be used in practically all types of geriatric conditions without harmful effect."[1] "Patients reported an increase in alertness, vitality and sense of well being."[2]

CIBA SUMMIT, N. J.

1. Natenshon, A. L.: **J. Am. Geriatrics Soc.** 6:534 (July) 1958.
2. Bachrach, S.: **To be published.**



of life!

PRESCRIBE RITONIC

FOR YOUR GERIATRIC PATIENTS
with symptoms of lassitude; lack of interest; loss of appetite.

FOR YOUR MIDDLE-AGED PATIENTS
with vague complaints; neurasthenia; loss of drive, ambition and vitality.

FOR YOUR POSTMENOPAUSAL PATIENTS
with symptoms of depression, nervousness and psychasthenia.

Each Ritonic Capsule contains:

Ritalin® hydrochloride	5 mg.
methyltestosterone	1.25 mg.
ethinyl estradiol	5 micrograms
thiamin (vitamin B_1)	5 mg.
riboflavin (vitamin B_2)	1 mg.
pyridoxin (vitamin B_6)	2 mg.
vitamin B_{12} activity	2 micrograms
nicotinamide	25 mg.
dicalcium phosphate	250 mg.

DOSAGE: One Ritonic Capsule in mid-morning and one in mid afternoon.
SUPPLIED: Ritonic CAPSULES, bottles of 100.
RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

Push Button Pleasure

Push button pleasure has become a reality at the University of Michigan.

Researchers working with rats are busy mapping "pleasure centers" in the brain. Tiny electrodes painlessly implanted deep in the rats have pinpointed the centers of hunger, sex and other reward systems.

Results of the research have modified some long-standing psychological theory and may well give man new weapons for the war on mental illness.

They have shown that pleasure is not merely the absence of pain, but a powerful emotional force in both animals and man. In fact, pleasure "centers" probably occupy an area at least five times as large as pain "centers" in the brain.

Energized by the rats themselves, the electrodes have given researchers a means of describing how tranquilizers and other drugs affect these emotional centers. Because of the similarity of brain structure and chemistry in rats and man, this technique means scientists can rapidly screen a wide variety of drugs to control these centers and thus combat mental illness.

In fact, some of the early research with rats has already been duplicated with cats and monkeys in the U.S. and with human schizophrenics in Norway.

Heading this research work is James Olds, U-M associate professor of psychology, formerly on the staff of McGill University, *Toronto*, and the University of California at *Los Angeles*.

Poliomyelitis Immunity

Poliomyelitis injections given to pregnant women also help to protect their children from the disease, a University of Michigan investigator has reported. Dr. Gordon C. Brown of the University of Michigan School of Public Health, beginning with studies of 142 pregnant women, showed that the benefits of vaccination were passed on to their infants for as much as three months after birth. He cited this as new evidence of the value and importance of Salk injections for pregnant women, widely recognized as one of the most "polio-prone" groups in the country.

While doctors have long suspected that Salk vaccine might have "carry over" value for infants, Dr. Brown's study was the first laboratory confirmation of this belief. In his report the Doctor states that:

- The higher the level of protection given to prospective mothers, the greater and longer lasting was the protection to their infants.
- As measured by serum antibodies, vaccinated mothers gave their children protection of the same potency and duration as those mothers who acquired a similar level of immunity through natural exposure to the disease.
- The poliomyelitis protection thus given to infants diminished steadily as they grew older.

Dr. Brown's research indicates that parents can now insure continuous protection against poliomyelitis for their children from the moment of birth. This can be done if prospective mothers receive the complete series of three injections, and start vaccinations for their children at the age of three months. Blood samples were studied from the infants when they were one day, one week, and one-, two-, and three-months old. The project was financed by the National Foundation.

International Gastroenterology

An unusual international medical research group, to be known as the Bockus International Society of Gastroenterology, has been organized by a group of alumni of the Graduate School of Medicine of the University of Pennsylvania. The members of the group will be made up of alumni of the graduate program in gastroenterology which is headed by Dr. Henry L. Bockus, Chairman of the Department of Internal Medicine at the Graduate School of Medicine. The group will stress the study of geographical differences in behavior patterns

Continued on page 248a

THE PIONEER IN THYROID STANDARDIZATION

Armour thyroid tablets assure: Consistent response—unsurpassed quality—highest manufacturing standards—full potency up to 17 years of storage—dependable therapy in: frank thyroid deficiencies and when hypothyroidism is associated with chronic recurrent colds, functional menstrual disorders, sterility, habitual abortion, obesity, hypometabolism. Thyroid is recommended in long-term therapy with ACTH or corticosteroids. Supplied in ¼, ½, 1, 2 and 5 grain strengths.

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the most widely prescribed thyroid product



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and epidemiology of many diseases in different parts of the world. The Society will meet annually immediately prior to the annual meeting of the American Gastroenterological Association, or in association with the International Congress of Gastroenterologists. The first meeting will take place on June 3, 1959 in Philadelphia. The subject will be the "Ulcerative Colitis Syndrome." The present officers of the Society represent Mexico, Cuba, Colombia, Brazil, India, England, the Netherlands, and, of course, the United States.

New Hospital at Portsmouth

A 15-story naval hospital is under construction at Portsmouth, Virginia. The structure will have a capacity of 800 beds, with supporting services capable of accommodating a 700-bed extension. The hospital will provide services for military personnel and their authorized dependents in the Norfolk-Portsmouth-Hampton Roads area of Tidewater, Virginia.

Poison Control Center in Denver

The only complete Poison Control Center in Colorado is at the Denver General Hospital. This center, under the direction of Dr. Robert S. Johnson, functions on a 24-hour basis furnishing consultative service, supervision of emergency treatment, and public education concerning accidental poisoning. It has excellent toxicological laboratory facilities. The center was organized by the Pediatrics Department of the University of Colorado Medical Center, and placed at Denver General Hospital by reason of availability of personnel, funds, and facilities. The Colorado State Department of Public Health serves as liaison between the present center and local health departments, contributes financially to its operation, and works with it in educational and preventive activities.

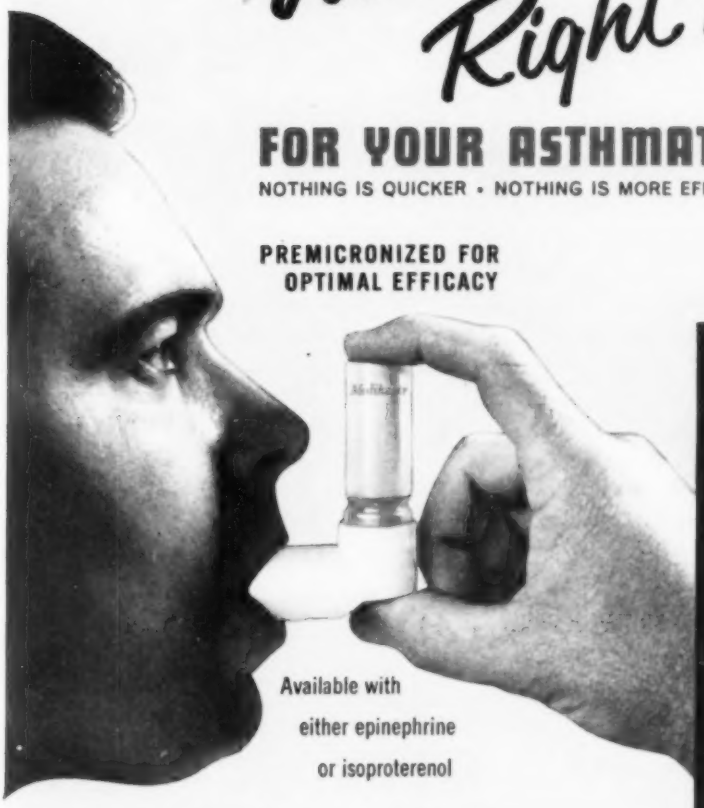
Continued on page 250a

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PREMICRONIZED FOR OPTIMAL EFFICACY



Available with either epinephrine or isoproterenol

automatically measured-dose aerosol medications

Nonbreakable • Shatterproof • Spillproof • Leakproof

Medihaler-EPI®

Epinephrine bitartrate, 7.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose contains 0.15 mg. epinephrine.

Medihaler-ISO®

Isoproterenol sulfate, 2.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose contains 0.06 mg. isoproterenol.

Riker

NOTABLY SAFE AND EFFECTIVE FOR CHILDREN, TOO.

Northridge, California

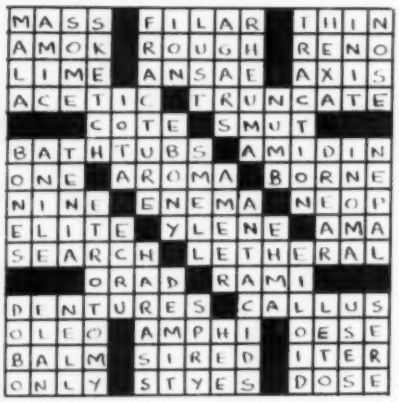
A Space Age "Shake Table"

T. Charles Helvey, Professor of Bio-physics at the University of Kansas, has designed a three-way "shake table" which will enable scientists to duplicate from 80 to 90 per cent of the vibrations which occur during missile take-offs, and stretch them out over a prolonged period of time. By subjecting missile components to these vibrations for sustained periods, it will be possible to eliminate many of the break-downs which now plague missile development.

Human volunteers strapped to the new device can be subjected to vibrations closely resembling those of supersonic and space flight. The problems of designing the new device are believed to be solved, and the "table" will soon reach the production stage at an estimated cost of $100,000. At present, all the world's "shake tables" vibrate in only one direction—up-and-down, forward-and-back, or side-to-side. The new machine will duplicate all these motions simultaneously or in any desired combination. The first model of the new table will be able to test parts weighing up to 1,500 pounds.

MEDICAL TEASERS

Answer to puzzle on page 63a



Dr. Richard T. Smith

Dr. Richard T. Smith has been selected as Professor and Chairman of the Department of Pediatrics at the University of Florida College of Medicine, Gainesville. Hospital facilities available to the new department include 75 pediatric beds and nursery facilities for about 2,000 deliveries a year. In addition to an active out-patient department, there is an ambulant division where mothers and their children may remain together.

Award Citation to Dr. Weeden

The President's Committee on Employment of the Physically Handicapped has awarded a special citation to Dr. Willis M. Weeden, Medical Director of the New York State Workmen's Compensation Board, in appreciation of his "exceptional contributions in advancing the employment of the physically handicapped."

Municipal Health Research Program

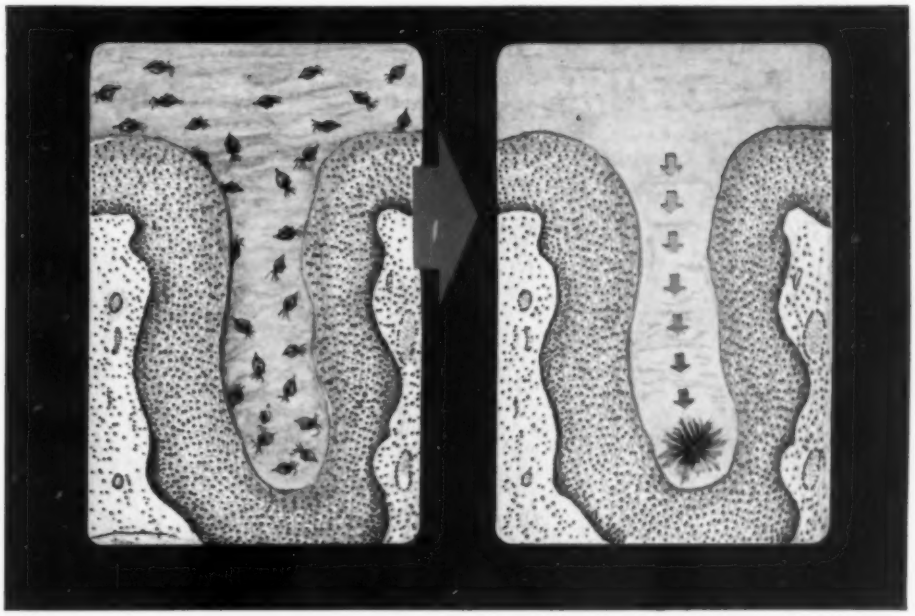
A "purely municipal program of medical and health research" was launched recently by Mayor Robert F. Wagner. The newly inaugurated New York City Health Research Council will direct the research program. Dr. Walsh McDermott, Professor of Public Health and Preventive Medicine at Cornell University Medical College, is Chairman of the Council. A specially created Office of Health Research within the Health Department will administer the program, and Dr. Colin MacLeod, former Chairman of the Army Epidemiology Board, will head this new unit. The City has appropriated $600,000 to underwrite the first year's work. The funds will be allocated under the guidance of the Research Council, and will enable scientists in local medical schools, hospitals, universities, research institutions, and city departments to carry on and intensify research work on a wide range of health and medical problems.

Continued on page 254a

IN LEUKORRHEA

Lycinate™

PENETRATES THROUGH THE MUCO-PURULENT BARRIER



seeks out...exposes...then destroys the trichomonad

The success of leukorrhea therapy depends upon bringing effective trichomonacidal medication into contact with the exudate-protected pathogens.

Lycinate, through extremely effective mucolytic action, penetrates, exposes and then destroys these organisms by both chemotherapeutic and lysing actions.

EACH LYCINATE VAGINAL TABLET CONTAINS:

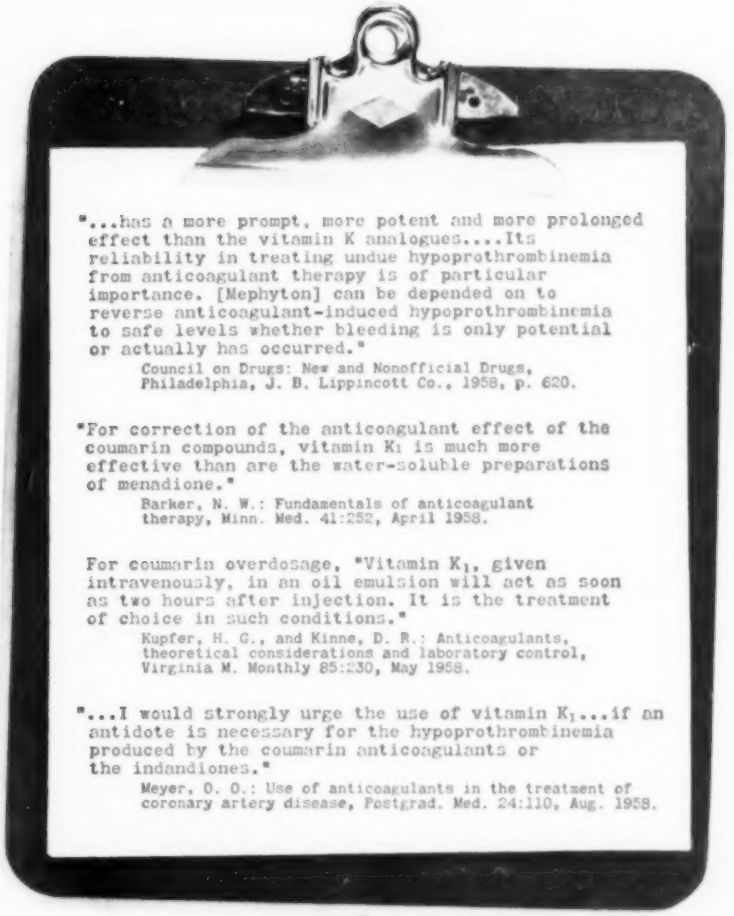
Diiodohydroxyquin . . . 100 mg.	Dioctyl sodium sulfosuccinate 5 mg.
Sodium lauryl sulfate . . . 5 mg.	Aluminum potassium sulfate 14 mg.
Lactose . . . . . 380 mg.	Dextrose, anhydrous . . . . 650 mg.

DOSAGE: 2 vaginal tablets inserted simultaneously once daily.
SUPPLIED: Boxes of 50 with applicator.

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Consensus:
The preferred antidote for anticoagulant-induced hypoprothrombinemia is 'Mephyton' (vitamin K_1).





chemically identical with naturally-occurring vitamin K_1

Mephyton®

Vitamin K_1

Dosage: Orally, to modify anticoagulant effects: 5 to 10 mg. initially; 15 to 25 mg. for more vigorous action. Intravenously, for anticoagulant-induced bleeding emergencies, 10 to 50 mg.; may be repeated as indicated by prothrombin time response. (Some clinicians advise their patients to keep a supply of tablets on hand at all times; if gross bleeding occurs, the patients are instructed to take 10 mg. and phone the doctor.)

Supplied: Tablets, 5 mg.; bottles of 100. Emulsion, each 1-cc. ampul contains 50 mg.; boxes of 6 ampuls.

MEPHYTON is a trademark of Merck & Co., Inc.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

Cancer Research at Creighton

A three-man research team at Creighton University School of Medicine has received an extension grant for cancer research in the amount of $12,748 from the National Cancer Institute, US Public Health Service.

A Possible Factor in Leukemia

Additional suggestive evidence to link leukemia with x-ray treatment has been uncovered by two senior medical students at the University of Michigan. They studied the histories of 483 patients who had received x-ray therapy for rheumatoid spondylitis, and followed the cases over a 19-year span, using patient histories, doctors' reports, interviews, examinations, and laboratory evidence. Six of the patients had subsequently developed leukemia or related disorders. While this percentage of leukemia is much greater than the expected incidence in the general population, it is not offered as conclusive evidence.

Research Grants to the University of Kansas

Two research grants totaling $190,176 have been made to the University of Kansas Medical Center by the National Foundation. One project is an investigation for a more effective vaccine for poliomyelitis, and the second is for research on a new type of virus.

Metabolism Studied at Harvard

Studies of the physical and chemical pathways through which sugars, fats, and amino acids are digested, absorbed, and metabolized in the intestines, and made available for use by the body are directed by Dr. Thomas H. Wilson, Associate Professor in Physiology at the Harvard Medical School. The Doctor's studies, though basic in nature, may have an important bearing on the treatment of diseases which are caused by faulty metabolism. The project is being financed by a $16,400 grant from the National Science Foundation, and will cover a two-year period.



"Your sponge and needle counts are correct, doctor, but one of the student nurses is missing . . ."

New Laboratory at Stanford University

The William A. Ross Memorial Laboratories will be constructed on the Stanford University campus. An initial gift of $100,000 from Mrs. Ross has set up a fund which is expected to be enlarged by future awards. Study of the heart will be stressed in the new laboratory, but other forms of research will be carried out also.

Emergency Hospital Unit for Civil Defense

A 200-bed civil defense emergency hospital was received by the University of Colorado Medical Center from the Federal government to expand facilities in the event of a civilian disaster, and to serve training and educational purposes. Robert L. Denholm, Colorado University Medical Center administrator, said that the unit weighs 13 tons, and consists of more than 400 separate items.

Radiation Therapy Center at New Haven

The new $1,165,000 Hunter Radiation Therapy Center for research and treatment of cancer and other diseases was dedicated at the Yale-New Haven Medical Center at New Haven recently. A two-million electron volt Van de Graaf X-ray generator, a gift of the Donner Foundation of Philadelphia, will be housed in the structure, which will serve both the Grace-New Haven Community Hospital, and the Yale School of Medicine. The radiation therapy center and the tumor clinic will occupy the first two floors while the top two floors will provide laboratory space for the Pediatrics and Medicine Departments of the Yale Medical School. The Center is named in memory of the family of Robert E. Hunter of Santa Barbara, who made a gift to Yale for the new building.

Continued on following page



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ELBON LABORATORIES

SPARTA, N. J.

Award for Rehabilitation to Creighton

The Creighton University School of Medicine has received the first of five annual grants from the Office of Vocational Rehabilitation, Washington, D. C. The overall value of the award is $74,405. The grant is to be directed by Dr. Harold N. Neu, Professor of Medicine and coordinator of the Teaching of Rehabilitation at the School of Medicine. The money will be used to implement personnel needed to help train medical students and residents in the modern concepts of rehabilitation. Creighton was one of the first medical schools in the United States to develop an organized teaching program in rehabilitation five years ago.

The program is particularly designed to strengthen the outpatient service at the School of Medicine dispensary so that the rehabilitation needs of patients who secure care there can also be met. Although in the past emphasis has been placed strongly on poliomyelitis rehabilitation, the new grant will enable the School of Medicine to handle all types of disability such as strokes, arthritis, heart disease, and neurological disorders.

Gastric Cancer Studies

The New York City Department of Health, five hospitals, and the Pack Medical Group are conducting a study of gastric cancer involving more than 6,000 persons. The department hospitals and the medical group have already examined more than 6,000 selected persons for gastric acidity and found that more than 1,000 of those examined had little or no acid in their gastric juice. Previous studies had shown that persons with little or no gastric acidity are three to four times more likely to develop gastric cancer than persons with normal levels of acidity. The investigators will follow up each of those persons who were found to have little or no gastric acidity to determine whether they will develop cancer. This follow-up will take from three to five years.

New Psychiatric Clinic

Announcement was made recently of a Federal fund grant of $196,187 for a new psychiatric clinic at the University of Alabama Medical Center. Located at University Hospital, the clinic will be the first unit of a proposed new ambulant patient center.

Hypertension Studied at Creighton

With the aid of a research grant of $3,300 from the American Heart Association which has been awarded to Dr. Charles M. Wilhelmj, Director of Research for the Creighton School of Medicine, the Doctor will continue his study of sympathectomy as a possible solution to the relief of hypertension. He will attempt to clarify the effects of nerve cutting on the smallest arteries, the constriction of which is characteristic of high blood pressure.

Addition to Chicago Medical Center

An addition to Chicago's West Side Medical Center has been announced by Dr. John J. Sheinin, President of the Chicago Medical School. The ten-story, block-long building will be erected at a cost of four million dollars. It will have complete facilities for intensive research in biophysics, behavioral science, infectious disease, allergy arthritis, experimental surgery, experimental medicine, metabolism, endocrinology, biochemistry, hematology, cardiology, and oncology. Completion of this first building of the Chicago Medical School's ten-acre campus of buildings is scheduled for the Fall of 1960. The new campus is expected to include a College of Physicians and Surgeons, a research hospital, nurses' residence, student quarters, and faculty housing. The institute will provide research facilities for over 400 scientists, doctors, technicians, and postgraduates.



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Trichotine is the modern detergent vaginal douche. Unlike vinegar or low pH douches, Trichotine cuts through viscid leukorrheal discharge and allows complete penetration of its healing and soothing ingredients. Trichotine is bactericidal and promotes epithelization. It offers quick relief from pruritus, and its refreshing, soothing action is reassuring even to your most fastidious patients.

in vaginitis—vulvovaginitis—cervicitis—pruritus vulvae—postcoital and postmenstrual hygienic irrigation

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Manhasset, N. Y.

DIAGNOSIS, PLEASE!

(Answer from page 33a)

VARICES

Note numerous large defects, mainly intraluminal, in the lower half of the esophagus, which were capable of changing their size and shape during the Mueller and Valsalva maneuvers.

WHO IS THE DOCTOR?

(Answer from page 71a)

MARY PUTNAM JACOBI

MEDIQUIZ

(Answers from page 77a)

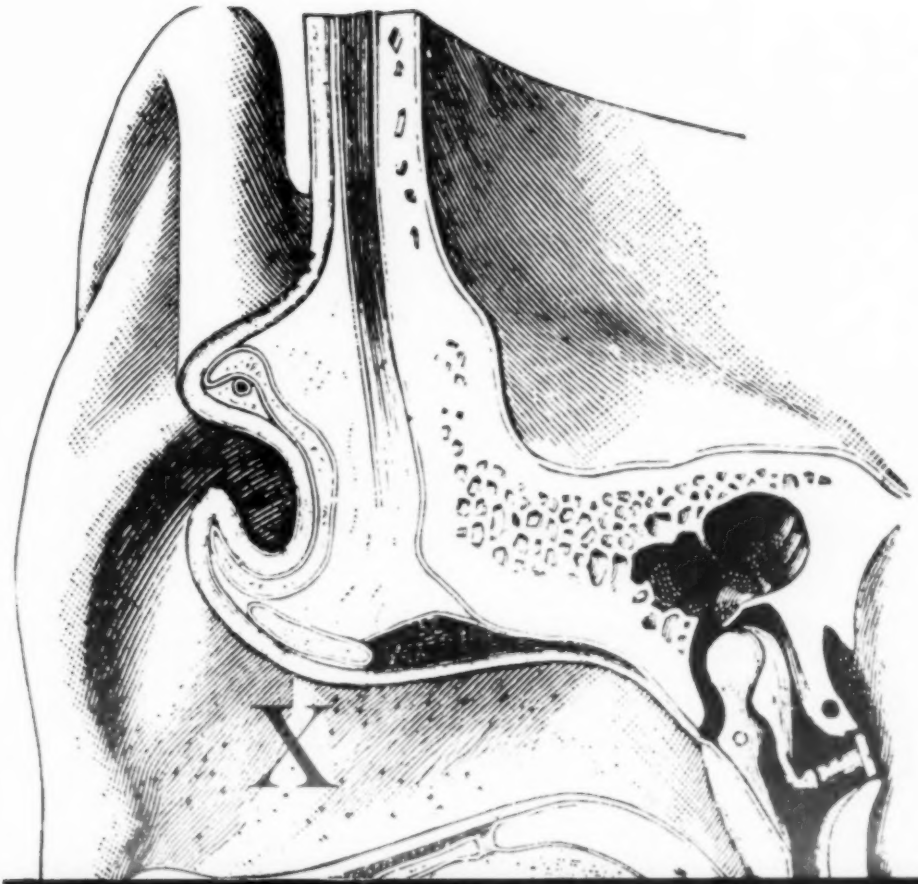
1 (C), 2 (D), 3 (D), 4 (D), 5 (C), 6 (E), 7 (D), 8 (D), 9 (A), 10 (D), 11 (C), 12 (D), 13 (B), 14 (C), 15 (B), 16 (D), 17 (E), 18 (A), 19 (C), 20 (C), 21 (D), 22 (B), 23 (D).

WHAT'S YOUR VERDICT?

(Answer from page 47a)

The Court of Appeals affirmed the decision of the trial court, holding that negligence cannot be inferred from injury alone. The plaintiff must produce legally sufficient evidence of a want of due care or skill, and this he failed to do.

Based on decision of
COURT OF APPEALS OF MARYLAND



"...BETTER RESULTS THAN EVER BEFORE..."* IN

OTITIS EXTERNA

AND CHRONIC OTITIS MEDIA WITH

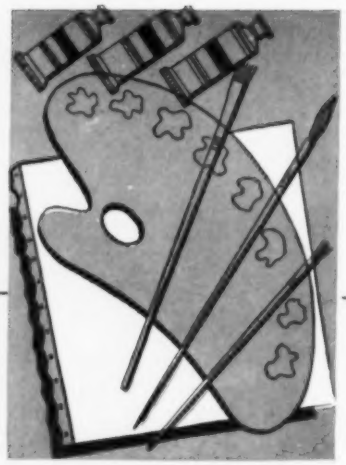
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3.5 mg. neomycin (from sulfate) and 50 mg. sodium propionate per cc.—in 15 cc. dropper bottles.

*Lawson, G. W.: Diffuse Otitis Externa and Its Effective Treatment, Postgrad. Med. 22:501 (Nov.) 1957.

AN OTIC SPECIALTY OF WHITE LABORATORIES, INC., KENILWORTH, NEW JERSEY



Covering the Times

MELBOURNE BRINDLE, this month's cover artist, is a friendly man who derives real enjoyment from his work, his role as a grandfather, and from his hobby, antique cars. "I never had it so good," is the way he sums it up.

Born in Melbourne, Australia (which we suspect influenced his parents' choice of name), he came to this country at the age of 14. He became art director for a San Francisco department store at 24, and an advertising agency artist four years later. Since then, his advertising illustrations have appeared in nationally circulated magazines and his cover paintings include many for the *Saturday Evening Post*.

Many honors have come Brindle's way, but he is perhaps most proud of the fact that his painting of the Wright Brothers' first flight at Kill Devil Hill is exhibited together with the Kitty Hawk plane at the Smithsonian.

Brindle lives and works in Bridgewater, Conn., where his 1932 Packard Dietrich Custom Convertible is a familiar sight.

Dr. John M. Street, the hard-working gentleman on our cover, is a general practitioner in New Milford, Conn. A native New Englander, he went south to get his degree at Duke Medical School, met his future wife, Ona, while interning at the university hospital.

During World War II, Dr. Street saw action with the 102nd Infantry in the European Theater. Discharged, he interned for a year at the Danbury (Conn.) Hospital before setting up practice in New Milford.

Like a complimentary print of this month's cover on wide margin paper for framing? Send 25c stamps or coin to cover postage and handling.

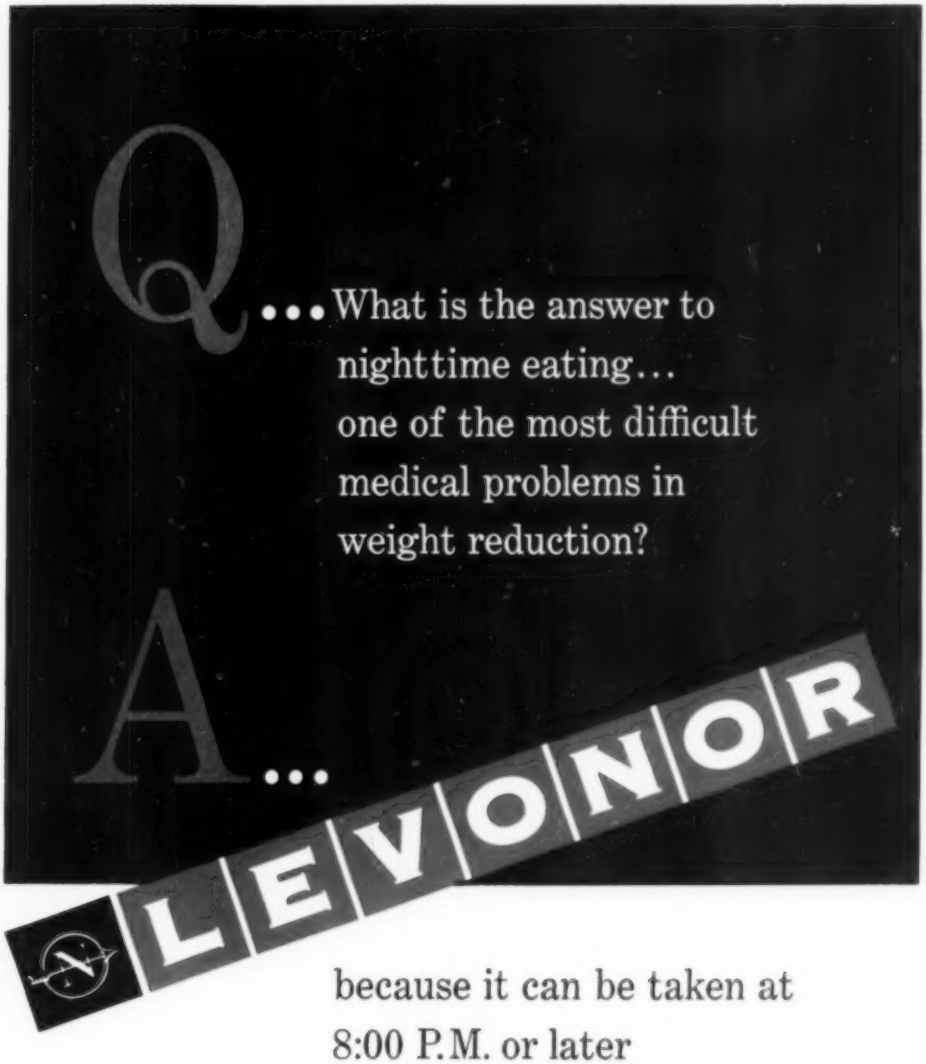


Melbourne Brindle at work.

In addition to his practice and community duties (Assistant Medical Examiner, Assistant Health Officer), Dr. Street is kept hopping by three lively sons, aged 14, 12 and 10. The boys were much impressed by artist Brindle when he first sketched the Street garage. For days afterward they took turns commanding their parents to "hold it, so I can sketch you."

Warm work for art's sake—winter-clad Dr. Street posing under hot floodlights in Brindle's studio. But the temperature didn't quite reach the 120° mark as is indicated by painted-in thermometer.





because it can be taken at
8:00 P.M. or later
without interfering
with sleep.

administration and dosage:
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Ames Co., Inc.
Decholin, Decholin with Belladonna 45a
Armour Pharmaceutical Co.
Armour Thyroid 247a
Chymar 109a
Astra Pharmaceutical Products, Inc.
Xylocaine HCl Solution 189a
Ayerst Laboratories
Beminal Forte with Vitamin C 219a
Kryl 54a, 55a
Murel 162a, 163a
Mysoline 93a
PMB-200 102a
Premarin Intravenous 65a
Premarin Vaginal Cream 20a
Breon & Co., George A., Homemakers Product Division
Diaparene Ointment 188a
Bristol Laboratories
Azotrex 148a, 149a
Kantrex
Between pages 106a, 107a; 212a, 213a
Bristol-Myers Co.
Bufferin 6a
Burroughs Wellcome & Co., Inc.
Empirin Compound 181a
Sudafed Syrup 36a
Carnation Co.
Carnalac 37a
Center Laboratories, Inc.
Allergy Service 248a
Ciba Pharmaceutical Products, Inc.
Privine 182a
Pyribenzamine Expectorant 106a
Regitine 92a
Ritonic 244a, 245a
Serpasil 3a
Serpasil-Apresoline 56a
Singoserp 150a, 151a, 152a, 153a
Tessalon Perles 86a, 87a
Ultandren 26a
Cutter Laboratories
Hyparotin 256a
Polio Immune Globulin 242a
Dermik Pharmacal Co., Inc.
Cort-Acne Lotion 242a
Rezamid Lotion 242a
Desitin Chemical Co.
Desitin Acne Cream 72a
Dome Chemicals Inc.
Ana-Dome Tablets 235a
Eaton Laboratories
Furacin 183a
Furadantin 57a
Elbon Laboratories
Co-Nib 256a
Endo Laboratories
Hycomine Syrup 233a
Esta Medical Laboratories, Inc.
Lanesta Gel 232a
Fesler Co., Inc., The
Trichotine 255a, 257a
Geigy Pharmaceuticals
Preludin 49a
Sterosan Hydrocortisone 133a
Sterazolidin 117a
Hobart Laboratories, Inc.
Numotizine 243a
Holland-Rantos Co., Inc.
Koro-Flex 35a
Irwin, Neisler & Co.
Rynatan 187a
Unitensen 74a
Ives-Cameron Co.
Cyclospasmol 4a
Formatone 227a
Pepulcin 191a
Synalgos 115a
Syntussin 32a
Kelgy Laboratories
Sulpho-Lac 248a
Knoll Pharmaceutical Co.
Dilaudid 22a
Lakeside Laboratories
Caytine 8a
Lederle Laboratories, Division of American Cyanamid Co.
Achrocidin 127a
Achromycin V 38a, 39a, 62a
Aristocort 139a, 140a, 141a, 142a
Aristogesic 58a, 59a
Diamox 225a
Falvin 69a
Filibon 103a
Gevral 110a, 146a, 198a, 238a
Pathibamate 156a, 157a
Stresscaps 88a
Leeming & Co., Inc., Thos.
Metamine Sustained 264a
Lloyd Brothers, Inc.
Doxical 104a
Doxidan 43a
Duadacin 134a
Lycinate 251a
McNeil Laboratories, Inc.
Butiserpine 119a
Parafon 211a
Parafon with Prednisolone 211a
Massengill Co., The S. E.
Livitamin Between pages 232a and 233a
Massengill Powder
Between pages 74a and 75a
Mead Johnson & Co.
Celginace 184a
Combinace 185a
Natalins 73a
Merck Sharp & Dohme, Division of Merck & Co., Inc.
Cogentin 145a
Cremomycin 125a
Decadron Between pages 34a and 35a; 85a, Cover 4
Diupres Between pages 200a and 210a
Diuril 60a, 61a
Mephyton 252a, 253a
Neo-Hydeltrasol Nasal Spray 169a
Neo-Hydeltrasol Ophthalmic 28a
Neothalidine 12a, 13a
Pentazets 78a
Mulford Colloid Laboratories
Anergex 18a
Nordson Pharmaceutical Laboratories, Inc.
Levonor 261a
Organon Inc.
Stenisone Cover 3
Ortho Pharmaceuticals
Delfen 239a
Parke, Davis & Co.
Benadryl 79a
Benylin Expectorant 175a
Eldec 67a
Kapseals Between pages 160a and 161a
Midicel 94a, 95a
Myadec 223a
Patch Co., The E. L.
Globotrin 165a
Kondremul 164a
Pitman-Moore Co., Division of Allied Laboratories, Inc.
Capsebon 136a, 137a
Neocholan 113a
Novahistine LP 147a
Purdue Frederick Co.
Cerumenex Drops 108a
Senokot 108a
Research Supplies
Glukor 218a
Riker Laboratories
Deaner 112a
Medihaler 249a
Robins Co., Inc., A. H.
Donnalate 111a
Phenaphen 129a
Phenaphen with Codeine 129a; Opposite page 129a
Robaxin 128a; Opposite page 128a
Roche Laboratories, Division of Hoffmann-La Roche Inc.
Azo Gantrisin Cover 2
Gantrisin 171a, 172a, 173a
Konakion 70a
Levo-Dromoran 80a
Nisentil 80a
Pantopon 80a
Madribon 50a, 51a
Madricidin 196a, 197a
Madriqid 50a, 51a
Noludar 300 24a, 25a
Romilar CF 215a
Roerig & Co., J. B., Division of Chas. Pfizer & Co., Inc.
Tao 228a, 229a
Viterra 81a
SchenLabs Pharmaceuticals, Inc.
Dorbane 123a
Schering Corp.
Coricidin Syrup 209a
Deronil 98a, 99a
Sigmagen 176a, 177a
Schmid, Inc., Julius
Ramses 90a, 155a
Vagisec 66a
Searle & Co., G. D.
Enovid 96a
Sherman Laboratories
Protamide 199a
Smith Kline & French Laboratories
Acnomel 68a
Squibb & Sons, E. R., Division of Olin-Mathieson Chemical Corp.
Kenacort 16a
Mysteclin V 220a, 221a
Noctec 195a
Sumycin Intramuscular 76a
Storck Pharmaceuticals, Inc.
Quinettes 226a
Strasenburgh Co., R. J.
Tussionex 116a
Sunkist Growers
Hesperidin and Lemon Bioflavonoid Complex 42a
Testagar & Co., Inc.
Ascorbacaine 206a
Upjohn Co., The
Halodrin 192a, 193a
Medrol 48a, 131a
Orinase 30a, 31a
Panalba 100a, 101a
Vanguard Pharmaceutical Corp.
Vanul 240a, 241a
Wallace Laboratories
Deprol 52a
Milpath 179a
Milprem 14a
Miltown 46a, 207a
Miltrate 205a
Warner-Chilcott Laboratories
Biomydrin Nasal Spray & Drops 44a
Peritrate 10a
Sinutab 107a
Tedral 263a
Westwood Pharmaceuticals
Fostex 237a
White Laboratories, Inc.
Gitaligin 41a
Mol-Iron Prenatal 135a
Orabiotic 203a
Otobiotic 259a
Vitamin A & D Ointment 82a
Wyeth Laboratories
Aludrox SA 75a
Cyclamycin 84a
Pen•Vee K 216a, 217a
Phenergan Expectorant 91a
Prozine Between pages 42a and 43a
Sparine 159a
Wyanoids HC 34a



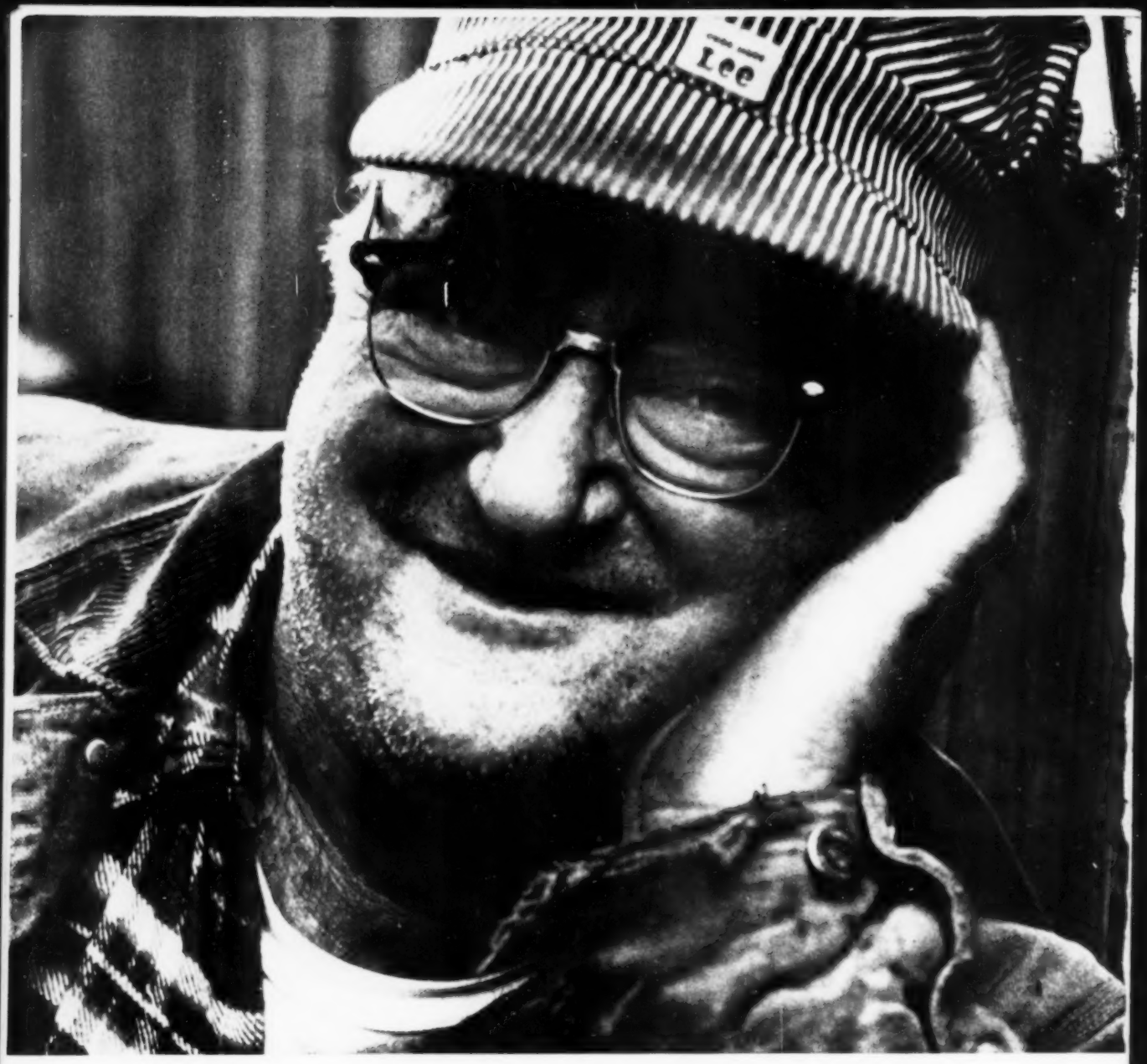
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1 tablet all day
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1. Slipyan, A.: J.A.M.A. 168:147, Sept. 13, 1958. 2. Fuller, H. L. and Kassel, L. E.: Antibiotic Med. & Clin. Therapy, 3:322, 1956.

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